TO THE TEACHER  These worksheets are the same ones found in the Chapter Resource Masters for California Mathematics, Grade 3. The answers to these worksheets are available at the end of each Chapter Resource Masters booklet.
## Contents

### Chapter 1 Place Value and Number Sense
1-1 Number Patterns ........................................... 1
1-2 Problem-Solving Strategy: Use the Four-Step Plan ......... 3
1-3 Place Value through 1,000 .................................. 5
1-4 Place Value through 10,000 ............................... 7
1-5 Problem-Solving Investigation: Use the Four-Step Plan .... 9
1-6 Compare Numbers .......................................... 11
1-7 Order Numbers ............................................ 13
1-8 Round to the Nearest 10 and 100 .......................... 15
1-9 Round to the Nearest 1,000 ................................ 17

### Chapter 2 Addition
2-1 Addition Properties ........................................ 19
2-2 Problem-Solving Skill: Estimate or Exact Answer .......... 21
2-3 Estimate Sums ............................................. 23
2-4 Two-Digit Addition ........................................ 25
2-5 Add Money .................................................. 27
2-6 Problem-Solving Investigation: Choose a Strategy ........... 29
2-7 Three-Digit Addition ....................................... 31
2-8 Add Greater Numbers ..................................... 33

### Chapter 3 Subtraction
3-1 Two-Digit Subtraction ..................................... 35
3-2 Subtract Differences ....................................... 37
3-3 Subtract Money ............................................ 39
3-4 Problem-Solving Skill: Reasonable Answers ................. 41
3-5 Three-Digit Subtraction with Regrouping ..................... 43
3-6 Problem-Solving Investigation: Choose a Strategy ......... 45
3-7 Subtract Greater Numbers ................................ 47
3-8 Subtract Across Zeros ..................................... 49
3-9 Algebra: Expressions and Number Sentences ................ 51

### Chapter 4 Multiplication Concepts and Facts
4-1 Multiplication as Repeated Addition ....................... 53
4-2 Arrays and Multiplication ................................ 55
4-3 Multiply by 2 ............................................... 57
4-4 Multiply by 4 ............................................... 59
4-5 Problem-Solving Skill: Extra or Missing Information ...... 61
4-6 Multiply by 5 ............................................... 63
4-7 Multiply by 10 .............................................. 65
4-8 Problem-Solving Investigation: Choose a Strategy ......... 67
4-9 Multiply by 0 and 1 ........................................ 69

### Chapter 5 More Multiplication Facts
5-1 Multiply by 3 ............................................... 71
5-2 Multiply by 6 ............................................... 73
5-3 Problem-Solving Strategy: Look for a Pattern ................. 75
5-4 Multiply by 7 ............................................... 77
5-5 Multiply by 8 ............................................... 79
5-6 Multiply by 9 ............................................... 81
5-7 Problem-Solving Investigation: Choose a Strategy .......... 83
5-8 Algebra: Associative Property ................................ 85
5-9 Algebra: Find a Rule ....................................... 87

### Chapter 6 Division Concepts and Facts
6-1 Relate Division and Subtraction ............................ 89
6-2 Relate Multiplication to Division .......................... 91
6-3 Problem-Solving Skill: Choose an Operation ................. 93
6-4 Divide by 2 ............................................... 95
6-5 Divide by 5 ............................................... 97
6-6 Problem-Solving Investigation: Choose a Strategy ......... 99
6-7 Divide by 10 ............................................. 101
6-8 Division Properties ....................................... 103

### Chapter 7 More Division Facts
7-1 Divide by 3 ............................................... 105
7-2 Divide by 4 ............................................... 107
7-3 Problem-Solving Strategy: Make a Table ..................... 109
7-4 Divide by 6 and 7 ........................................ 111
7-5 Divide by 8 and 9 ........................................ 113
7-6 Find Unit Cost ............................................ 115
7-7 Problem-Solving Investigation: Choose a Strategy ......... 117
7-8 Algebra: Expressions and Equations ......................... 119
7-9 Algebra: Translate Words to Expressions .................... 121

### Chapter 8 Measurement: Customary System
8-1 Length to the Nearest Half Inch ......................... 123
8-2 Customary Units of Length ................................ 125
8-3 Problem-Solving Strategy: Work Backward ................ 127
8-4 Customary Units of Capacity ............................. 129
Homework Practice
Number Patterns

Identify the pattern. Then find the missing numbers.

1. 3, _____, 9, _____, 15
2. 111, 115, _____, 123, 127
3. 50, 70, _____, 110, _____
4. 48, 46, _____, 42, _____
5. 120, 100, _____, 60, _____
6. 7, _____, 11, _____, 15

7. Some friends volunteer at a pet shelter. If the pattern continues, how many hours will Antonio and Vanessa volunteer?
   Vincent 2 hours
   Rachel 5 hours
   Alex 8 hours
   Antonio ____________
   Vanessa ____________

Spiral Review
Complete each multiplication sentence.

8. 5 × 2 = _____  3 × 5 = _____  2 × 3 = _____
9. 8 × 5 = _____  6 × 5 = _____  10 × 7 = _____
10. 9 × 5 = _____  6 × 10 = _____  2 × 7 = _____
11. 6 × 2 = _____  2 × 9 = _____  2 × 10 = _____
12. Kayla has 25 beads to give to 5 friends. She will give the same number to each friend. How many beads will each friend get?
   ________________
Solve.

1. Jasmine lives at 62 Elm Street. The house numbers on her side of the street increase by 2. There are 4 houses on the street. If Jasmine’s house is the first house, what is the address of the last house?

2. Juan draws 16 triangles. He colors every fourth triangle blue. How many blue triangles are there?

3. The football team runs five more laps each day. If they run 10 laps on Monday, how many laps will they run on Friday?

4. Danielle is saving for a bicycle. Her last four bank deposits were $16, $19, $22, and $25. If the pattern continues, how much will her next bank deposit be?

5. Hannah’s new puppy gains 2 pounds each week. If the puppy weighed 7 pounds in the first week, how much will it weigh in the fifth week?

6. The average temperature increases 3°F each month from May through August. If the average temperature in May is 74°F, what is the average temperature in August?
Solve. Use the four-step plan.

1. Tania starts a game with 300 points. In four rounds of the game, she adds 25 points each round. How many points does Tania have at the end of four rounds?

2. Victoria buys sunglasses for $6.95. If she gives the cashier two $5-bills, how much change will she get?

3. Sylvia’s game piece is on box 25 of a game board. She moves it ahead 5 boxes, three times. Where is her game piece now?

4. Rebecca and Haley went to a fair. Each girl bought four different kinds of cookies. How many kinds of cookies did they buy in all?

Spiral Review
Identify the pattern. Then find the missing numbers. (Lesson 1-1)

5. 8, 10, _____, 14, _____, _____

6. 76, _____, 72, _____, _____

7. 55, _____, 65, _____, _____

8. 108, 105, _____, 99, _____

9. 560, 660, _____, _____, 960

10. 15, _____, 45, 60, _____

11. Henry draws 5 circles, 10 circles, 15 circles, and then 20 circles. If the pattern continues, how many circles will Henry draw in the next row?

12. Fran likes to buy flowers each week. The first week she buys white flowers, the second week she buys red flowers, and the third week she buys yellow flowers. If the pattern continues, what color will she buy in the fifth week?
Write each number in expanded form and word form.

1. 2,368
   Expanded form: ________________
   Word form: ____________________

2. 4,572
   Expanded form: ________________
   Word form: ____________________

Write the place of the underlined digit. Then write the value of the digit.

3. 567
   ______________________________

4. 6,327
   ______________________________

Write each number in standard form.

5. 5,000 + 500 + 3 __________
6. 2,000 + 300 + 20 + 9 __________

Solve. Use the four-step plan. (Lesson 1-2)

7. Lauren and Christina went to the store to buy cheese for a party. Each bought 3 different kinds of cheese. How many different kinds of cheese did they buy?

8. Erin practiced 2 songs on her flute on Monday. On Tuesday she practiced 4 songs and on Wednesday she practiced 6 songs. If the pattern continues, how many songs will she practice on Friday?
Solve.

1. There are 4,563 seats in a local sports arena. Write that number in expanded form.

2. How many tens are there in 7,652?

3. The Harris family traveled 1,355 miles to San Francisco. How many more tens than hundreds are in the number of miles they traveled?

4. Mr. Holt wrote this number on the board:
   \[ 4,000 + 40 + 7 \]
   What number is this in standard form?

5. A Spanish dictionary in the library has 1,324 pages. A French dictionary has 200 more pages than the Spanish dictionary. How many pages are in the French dictionary?

6. Kyle is in seat number 1,024. The number on Sierra’s seat has the same number of thousands and tens as Kyle’s number, but 2 more hundreds and 3 fewer ones than Kyle’s number. What is Sierra’s seat number?
Write the place of each underlined digit. Then write its value.

1. 4,559
2. 48,351
3. 55,303
4. 67,842
5. 23,901
6. 15,221

Write each number in expanded form.

7. 60,872
8. 34,759
9. 1,259

Write each number in standard form.

10. 50,000 + 4,000 + 900 + 80 + 2
11. 40,000 + 3,000 + 300 + 70 + 7

Spiral Review

Identify the pattern. Then find the missing numbers. (Lesson 1-3)

12. 65, 60, _____, _____, 45, 40
13. 54, _____, 60, _____, 66, _____
14. 33, 43, _____, _____, 73, _____
15. 543, 539, _____, 531, _____, _____

Solve.

16. Jacob bought 2 tropical fish on Monday, 5 on Tuesday, and 8 on Wednesday. If this pattern continues, how many tropical fish will he buy on Thursday?
Problem-Solving Practice
Place Value through 10,000

Solve.

1. The North Avenue Library owns 145,672 books. Write that number in expanded form.

2. The town that Jose lives in has 431,988 people. What is the value of the 9 in this number?

3. Last month, Fresh Juice Company sold 654,019 bottles of orange juice. This month, the number of bottles sold was five thousand more than last month’s number. How many bottles of orange juice were sold this month?

4. There are 70,000 + 5,000 + 400 flowers in the Mayville Town Park. In standard form, how many flowers are there?

5. Use the two clues below to find the six-digit number.
   Clue 1: Each digit increases by one. For example: 345,678.
   Clue 2: If you add all six numbers, the answer is 21.
   What is the six-digit number?
Homework Practice
Problem-Solving Investigation

Solve using the four-step plan.

1. The pine tree in Mr. George’s yard is 35 feet tall. The oak tree in his yard is 43 feet tall. How much taller is the oak tree than the pine tree?

2. Miranda’s garden has three rows. There are 13 rose plants in the first row, 7 lily plants in the second row, and 12 daisy plants in the third row. How many plants are in Miranda’s garden?

3. Jason’s dog weighs 13 pounds. David’s dog weighs 12 pounds more than Jason’s dog. How much does David’s dog weigh?

Spiral Review

Write the place of each underlined digit. Then write its value. (Lesson 1-4)

4. 5,609

5. 47,898

6. 34,332
Name ___________________________ Date ____________________

**Homework Practice**

**Compare Numbers**

**Write >, <, or = for each.**

1. $751 \_ \_ $715
2. 322 \_ 332
3. 121 \_ 211
4. 435 \_ 543
5. 673 \_ 376
6. 788 \_ 877
7. 808 \_ 880
8. $918 \_ $819
9. 727 \_ 772

**Solve.**

10. The June concert sold 544 tickets. The July concert sold 455 tickets. Which concert sold a greater number of tickets?

11. On Wednesday, the temperature at noon was 101°. On Thursday, the temperature at noon was 110°. Which day was cooler, Wednesday or Thursday?

**Spiral Review**

Solve using the four-step plan. (Lesson 1-5)

12. Lynn’s loaf of bread has 24 slices. If she uses 8 slices to make four sandwiches, how many more sandwiches can she make?

13. Mason played piano for 1 hour on Monday. On Tuesday, he played for 30 minutes longer. On Wednesday, he played for 15 minutes longer than Tuesday. How long did he play piano on Wednesday?
Problem-Solving Practice

Compare Numbers

Solve.

1. Julia has read 120 pages of her book for her book report. Deanna has read 112 pages. Who has read more pages so far?

2. In the school bookstore, a pen costs $2.44. A large notebook costs $2.33. Which costs less, the pen or the notebook?

3. Mrs. Fallon gave her class a multiple-choice test. There were 145 questions on the test. Philip answered 134 questions correctly. Nicole answered 141 questions correctly. Who scored higher on the test? How can you tell?

4. The skateboard that Pedro wants to buy costs thirty-five dollars at Nino’s Skate Shop. The same skateboard costs $43.00 at Manny’s Skateboard Central. At which store should Pedro buy his skateboard? Tell why.

5. Niko, Paul, and Jon all want to win a prize for selling the most fruit. Niko has 367 points, Paul has 455 points, and Jon has 437 points. To win a prize, you must have at least 435 points. Who will not win a prize?
Order the numbers from greatest to least.

1. 5,668; 5,886; 8,585

2. $5.66; $6.55; $6.56

3. 6,432; 4,634; 4,346

4. 7,701; 7,101; 7,001

Order the numbers from least to greatest.

5. 9,544; 9,455; 9,564

6. 7,878; 7,087; 7,778

7. 3,553; 3,335; 3,355

8. 6,461; 4,641; 6,641

Spiral Review

Compare. Write >, <, or =. (Lesson 1-6)

9. 55 □ 58

10. 654 □ 645

11. $5.39 □ $5.39

12. 6,443 □ 6,533

13. 2,998 □ 2,889

14. $6.92 □ $6.29

Solve.

15. The Jacksons and the Chens went on vacation. The Jacksons drove 235 miles. The Chens drove 325 miles. Which family drove farther?
Problem-Solving Practice
Order Numbers

Solve.

1. Jill’s soccer team has 14 members. Nick’s team has 12 members. Danielle’s team has 17 members. Write the teams in order from the greatest to least number of members.

2. A pound of tomatoes costs $3.19. A pound of onions costs $0.99. A pound of potatoes costs $2.55. Write the foods in order from the least to the most expensive.

<table>
<thead>
<tr>
<th>Car Type</th>
<th>Cost</th>
<th>Number Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Car</td>
<td>$20,398</td>
<td>1,309</td>
</tr>
<tr>
<td>Sedan</td>
<td>$14,990</td>
<td>3,980</td>
</tr>
<tr>
<td>Compact</td>
<td>$9,887</td>
<td>2,881</td>
</tr>
</tbody>
</table>

3. According to the table, which car costs the most money?

4. Write the names of the cars in order from the least number sold to the greatest number of cars sold.

5. Gigi has $6.98 in her wallet. Robert has $8.98 in his wallet. Toby has $5.00 more than Gigi in his wallet. Who has the least amount of money?
Homework Practice

Round to the Nearest 10 and 100

Round to the nearest ten.

1. 56 _____ 2. 4,588 _____ 3. 6,444 _____
4. 648 _____ 5. 506 _____ 6. 3,409 _____

Round to the nearest hundred.

7. 569 _____ 8. 1,413 _____ 9. 2,978 _____
10. 915 _____ 11. 5,533 _____ 12. 1,119 _____

Order the numbers from least to greatest. (Lesson 1-7)

13. 5,688; 5,866; 5,668 ______________________
14. 4,209; 4,029; 4,299 ______________________
15. 6,877; 6,788; 7,899 ______________________
16. 3,362; 3,382; 3,128 ______________________

Order the numbers from greatest to least.

17. 5,551; 5,051; 5,105 ______________________
18. 3,225; 2,335; 3,235 ______________________
19. 9,876; 9,879; 9,987 ______________________
20. 1,027; 1,207; 1,072 ______________________
21. 8,600; 8,006; 8,060 ______________________
22. 7,474; 7,447; 7,744 ______________________

Spiral Review

Order the numbers from least to greatest. (Lesson 1-7)

Grade 3 15

Chapter 1
Solve.

1. It takes Juan 13 minutes to walk to the store near his home. About how many minutes does it take to the nearest ten?

2. Garrett’s dog weighs 48 pounds. About how much does the dog weigh to the nearest ten?

3. A 36-inch television costs $509 at Sam’s Electronics. This month it is on sale for $449. To the nearest hundred dollars, what is the sale price of the television?

How much was it before the sale? Estimate to the nearest hundred dollars.

4. The U.S. Bank Tower in Los Angeles is 1,017 feet tall. How tall is it to the nearest hundred feet?

5. Which three-digit numbers round to 500 when rounded to the nearest hundred, and also round to 460 when rounded to the nearest ten?
Homework Practice

Round to the Nearest 1,000

Round to the nearest thousand.

1. 4,569 ________  2. 1,284 ________  3. 8,877 ________
4. 3,569 ________  5. 8,440 ________  6. 12,899 ________

Solve.

7. Luis and his family flew 1,487 miles last summer while on vacation. Rounded to the nearest thousand, how many miles did they fly?

8. Miles bought a car that cost $23,556. To the nearest thousand, how much did the car cost?

Spiral Review

Round to the nearest ten. (Lesson 1-8)

9. 54 ________  10. 323 ________  11. 578 ________
12. 143 ________  13. 1,093 ________  14. 1,566 ________

Round to the nearest hundred.

15. 2,349 ________  16. 3,441 ________  17. 3,219 ________
18. 677 ________  19. 5,788 ________  20. 8,892 ________
21. 155 ________  22. 4,975 ________  23. 6,864 ________

Grade 3 17
Problem-Solving Practice

Round to the Nearest 1,000

Solve.

1. The Hanson’s new refrigerator cost $1,085. How much did the refrigerator cost to the nearest thousand dollars?

2. The distance from Los Angeles to St. Louis is 1,845 miles. What is the distance between the cities to the nearest thousand miles?

3. The Morrisons paid $10,825 to have their house remodeled. The Wongs paid $400 less. How much to the nearest thousand dollars did the Wongs pay?

4. Hector lives in a city with a population of 79,702 people. What is the city’s population to the nearest thousand?

5. The top-selling toy for 2005 had sales of 4,229. This was 1,800 more toys sold than the top-selling toy of 2004. To the nearest thousand, about how many toys were sold in 2004?

6. The Garcias bought a car for $27,567. What is the price rounded to the nearest thousand?
Find each sum. Identify the property shown.

1. \(5 + 4 = \)
   \(4 + 5 = \)

2. \(46 + 0 = \)

3. \((7 + 9) + 3 = \)
   \((7 + 3) + 9 = \)

4. \(1 + (9 + 5) = \)
   \((1 + 9) + 5 = \)

Find each missing number. Identify the property shown.

5. \((0 + 7) + 3 = \square + (7 + 3)\)

6. \(20 + 40 = 40 + \square\)

Spiral Review

Round to the nearest thousand.

7. 4,801

8. 3,192

9. 6,592

10. 5,038
Solve.

1. For a science project, Pedro must find 20 autumn leaves. So far, he’s collected 9 yellow leaves, 5 red leaves, and 1 orange leaf. How many leaves does he have so far? How many more does he need? Which addition property did you use?

2. In order to solve a math problem, Ryan switched the parentheses from
   
   \[ 7 + (3 + 6) \text{ to } (7 + 3) + 6. \]

   He told his teacher that he used the Commutative Property of Addition. Was he correct?

3. Tamika is making a bracelet. She is using 3 wooden beads, 5 gold beads, 4 blue beads, 5 silver beads, and 3 black beads. What is the total number of beads in her bracelet?

4. Jose has 9 T-shirts, 2 sweaters, 3 long-sleeved pullovers, and 1 jacket. Find how many tops he has. Which property will make your addition easier?

5. Rita has collected items to take to her recycling center. She has 7 boxes of paper, 2 bags of bottles, and 1 bag of cans. How many bags and boxes does she have?
Homework Practice

Problem-Solving Skill

Tell whether an estimate or an exact answer is needed. Then solve.

1. The principal of Sydney Elementary School wants at least 50 students to enter the National Poetry Contest. In Mr. Ogden’s class, 19 students entered the contest; in Mrs. Hill’s class, 23 students entered; and in Miss Lee’s class, 9 students entered. How many total students entered the contest? Are there enough students?

2. The Coopertown Museum of Art has 45 paintings, 12 sculptures, and 39 pieces of pottery. About how many total pieces of art does the museum have?

3. At Marta’s school library, there are 16 shelves of novels, 8 shelves of picture books, and 21 shelves of history books. About how many shelves are there in all?

Spiral Review

Find each sum. Identify the property shown. (Lesson 2–1)

4. $12 + (3 + 4) = \hfill 5. (5 + 4) + 2 = \hfill$
   $(12 + 3) + 4 = \hfill 5 + (2 + 4) =$
Estimate each sum using rounding.

1. 504 + 86 _____
2. 15 + 29 _____
3. $7.10 + 7.80 _____
4. 428 + 376 _____

Estimate each sum using front-end estimation.

5. 646 + 289 _____
6. $3.80 + 4.45 _____
7. 102 + 399 _____

8. Last Saturday, 73 people worked out at the Ferndale Fitness Center. On Sunday, 65 people worked out. About how many people were at the fitness center on those two days?

Spiral Review

Tell whether an estimate or an exact answer is needed. Then solve. (Lesson 2–2)

9. Filipa wants to learn karate. One month of classes costs $55, and a karate suit costs $35. How much will she pay?

10. Every Sunday, Jamila and her family visit her grandparents. Then they go to visit her aunt. Her family drives 49 miles to see her grandparents and drives 17 more miles to her aunt’s house. How many miles do they drive?
Problem-Solving Practice

Estimate Sums

Solve.

1. If Kiki buys a digital camera that costs $73 and a book that costs $12, about how much will she pay?

2. Michelle has saved $11.30 from her allowance, and her sister Maria has saved $5.85. They want to buy their mother a $17.00 pair of earrings for Mothers’ Day. Together, will they have enough money? Explain.

Use the information below for Exercises 3 and 4.

The Centerville Cinema sells movie tickets for the following prices:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Child</td>
<td>$6.50</td>
</tr>
<tr>
<td>Adult</td>
<td>$8.00</td>
</tr>
<tr>
<td>Senior</td>
<td>$6.25</td>
</tr>
</tbody>
</table>

3. Using front-end estimation, about how much will it cost if Robert goes to a movie with his father and grandfather?

4. Two sisters are going to a movie with their grandmother and grandfather. Estimate by rounding to find about how much their tickets will cost in all.
Add. Check for reasonableness.

1. \(32 + 6 = \) 38
2. \(44 + 13 = \) 57
3. \(19 + 49 = \) 68
4. \(21 + 34 = \) 55
5. \(25 + 3 = \) 28
6. \(46 + 10 = \) 56

Find the missing digit.

7. \(87 + \square = 94\)
8. \(\square + 13 = 62\)
9. \(2 + 38 = 50\)

Solve.

10. At the Park School Soccer Camp, 27 girls and 25 boys attended. How many attended in all?

Estimate each sum using rounding. (Lesson 2–3)

11. \(19 + 48 = \)
12. \(\$22.15 + \$9.58 = \)
13. \(43\text{¢} + 46\text{¢} = \)

Estimate each sum using front-end estimation.

14. \(\$5.27 + \$1.24 = \)
15. \(892 + 244 = \)
16. \(79\text{¢} + 17\text{¢} = \)
Solve.

1. In the Ripple Creek Zoo, there are four different kinds of animals. Fill in the chart below to find how many there are in each group.

<table>
<thead>
<tr>
<th>Bears</th>
<th>Monkeys</th>
<th>Deer</th>
<th>Snakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 brown bears</td>
<td>4 chimpanzees</td>
<td>7 antelopes</td>
<td>1 boa</td>
</tr>
<tr>
<td>2 polar bears</td>
<td>2 baboons</td>
<td>4 gazelles</td>
<td>2 pythons</td>
</tr>
</tbody>
</table>

2. Add your sums from Exercise 1 to find the total number of animals in Ripple Creek Zoo.

3. Only 50 people at a time can skate at Brown’s Ice Skating Rink. There were already 21 people in the rink when 37 Auburn Elementary School students arrived. How many people are now at the rink?

4. Brianna’s mother told her to do 50 minutes of homework. If she does 15 minutes of math homework, 20 minutes of social studies, and 10 minutes of English, will this be enough homework time? How long has Brianna worked?

5. Pablo’s family went on a trip to the beach. In the morning, they drove 26 miles, and then after lunch they drove another 45 miles. In all, how far did they travel?
Add. Use estimation to check for reasonableness.

1. 41¢ + 18¢ = _____ 
2. $12 + $79 = _____ 
3. $0.08 + $0.76 = _____ 
4. $0.39 + $0.50 = _____ 
5. $68 + $8 = _____ 
6. $21 + $33 = _____ 
7. $13 + $78 = _____ 
8. $34 + $17 = $51 
9. $46 + $89 = _____ 
10. $0.75 + $0.75 = _____ 

11. Anna has $15. If she buys a book that costs $9 and a poster costing $4, how much money will she have left?

12. If Yolanda buys a birthday card for 36¢ and a thank-you card for 46¢, what will she pay in all?

Spiral Review

Add. Check for reasonableness. (Lesson 2–4)

13. 55 + 32 _____ 
14. 19 + 29 _____ 
15. 65 + 25 _____ 

ALGEBRA Find each missing digit.

16. 18 + □  3 = 31 
17. □  9 + 24 = 63 
18. 5 □ + 35 = 90
Problem-Solving Practice

Add Money

1. Brian found $0.25 at the beach on Monday, $0.16 on Tuesday, and $0.07 on Wednesday. In all, how much money did he find?

2. Find the Error

Javan added $0.29 + $0.05 and got $0.79 for his total. Find the correct answer, and explain Javan’s error.

3. For math class, Pia has to buy a ruler that costs 42¢ and a compass that costs 49¢. How much money will she spend?

4. Mei Ling had dinner at the Highland Restaurant. The salad cost $3, the soup cost $5, the Italian bread cost $2, the spaghetti cost $9, and the dessert cost $5. How much did her dinner cost?

5. Ryan is inviting five friends to his birthday party. The party invitations will cost $5, decorations will cost $4, and a birthday cake will cost $9. How much will everything cost?

6. Melons cost $2 each. If Monica buys 3 melons, along with a quart of lemonade that costs $3 and a quart of ice cream that costs $5, how much will she pay?
Use the four-step plan, estimation, or an exact answer to solve each problem.

1. Ernesto’s friend lives 7 blocks away from his house. On Saturday morning, Ernesto rode his bike to his friend’s house and rode back home later on. In the afternoon, he rode to his friend’s house again, and later on he rode back home. In all, how many blocks did he ride?

2. Mrs. Shelley’s class is reading *The Lion, the Witch, and the Wardrobe*. If they read 16 pages every week, how many pages can they read in 3 weeks?

3. At a dance recital, ballet dancers performed for 19 minutes, modern dancers performed for 24 minutes, and hip-hop dancers performed for 12 minutes. About how long was the recital?

4. Al visits his grandparents every summer. Al’s mother drives him 20 miles to the bus station. Al travels 475 miles on the bus to his grandparent’s house. How many miles does he travel in all?

Spiral Review

Add. Use estimation to check for reasonableness. (Lesson 2–5)

5. 46¢ + 65¢ + 81¢  
6. $55 + $13 + $38  
7. 6¢ + 12¢ + 77¢  
8. $28 + $41 + $48
Find each sum. Use estimation to check for reasonableness.

1. $3.50 + $4.65 ______
2. 29¢ + 66¢ ______
3. $4.45 + $3.08 ______
4. 653 + 284 ______
5. 178 + 99 ______
6. $6.02 + $1.39 ______

Solve. (Lesson 2–6)

7. Kevin’s family bought a pizza for dinner that cost $7.95. They also bought 3 sodas: each soda cost $1.30. How much did all of these items cost?

8. A canary costs $89, and a birdcage costs $129. About how much do the bird and cage cost together?

9. A truck is delivering fresh vegetables to the Dixville Grocery Store. Starting from Bealstown, it goes 127 miles north to Bentley, and then goes 139 miles west to Dixville. How many miles is the entire trip to Dixville?
Find each sum. Use estimation to check for reasonableness.

1. On Saturday, Stephanie cleaned her room for 16 minutes, watered the garden for 18 minutes, and helped her mother bake a cake for 21 minutes. How long did she work?

2. The Allens are redecorating their living room. A new rug will cost $249, a new sofa will cost $540, and new curtains will cost $45. How much will everything cost?

3. Megan’s older sister goes to a college that is 197 miles from home. She comes home once a month. How many miles does she travel coming home and going back to college?

4. Mrs. Lewis bought 2 rosebushes for her garden. One cost $6.25 and one cost $3.35. What was the total cost?

5. A long-distance phone call to Germany costs $4.95 for 15 minutes. This week, Jens called his family in Germany twice and talked 15 minutes each time. How much did both phone calls cost?

6. Anwar wants to begin collecting marbles. He decides he would like 17 clear marbles, 12 blue marbles, and 15 green marbles. How many marbles does Anwar want in all?
Homework Practice
Add Greater Numbers

Find each sum. Use estimation to check for reasonableness.

1. 4,091 + 238 = __________
2. $50.45 + $49.99 = __________
3. 356 + 1,209 = __________
4. $144.63 + $72.10 = __________
5. $39.12 + $23.67 = __________
6. 2,088 + 346 = __________
7. $74.16 + $24.18 = __________
8. $45.02 + $54.20 = __________
9. 3,866 + 727 = __________

10. Courtney is having a tea party. She bought a teapot for $25.35, a tea sampler for $5.99, and cookies for $6.15. How much money did she spend?

________________________

11. Elizabeth went to the craft store to purchase supplies to make a scrapbook. She bought some stamps for $19.99, craft glue and beads for $10.45, and a pack of colored paper for $9.33. How much money did she spend?

________________________

Spiral Review
Find each sum. Use estimation to check for reasonableness.
(Lesson 2–7)

12. 708 + 221 = __________
13. 578 + 333 = __________
14. 981 + 602 = __________
15. 132 + 78 = __________
Solve.

<table>
<thead>
<tr>
<th>California Travel Agency Special Fares:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia</td>
</tr>
<tr>
<td>Miami</td>
</tr>
<tr>
<td>Baltimore</td>
</tr>
<tr>
<td>Kansas City</td>
</tr>
</tbody>
</table>

1. Cheyenne is going to Philadelphia for her summer vacation. Her friend James is going to Miami. How much will both tickets cost?

2. Lee’s mother had to go on two business trips last month. She went to Baltimore and Kansas City. What was the total cost of her plane tickets?

3. Carlos paid $4.59 for his baseball cap, $39.97 for a bat, and $80.12 for his uniform. About how much did he pay?

4. Paulita bought jewelry when she went to New Mexico. She bought a beaded necklace that cost $23 and a bracelet that cost $14. What was the total price she paid?

5. In March, Mr. Landry worked 150 hours. In April, he worked 160 hours. In May, he worked 155 hours. How many hours did he work during these three months?
3-1

Homework Practice
Two-Digit Subtraction

Subtract. Check your answer.

1. 25
   - 3

2. 37
   - 5

3. 49
   - 8

4. 52
   - 6

5. 67
   - 8

6. 83
   - 9

7. 39
   - 17

8. 45
   - 21

9. 64
   - 32

10. 56
    - 38

11. 75
    - 26

12. 91
    - 33

13. 15 – 4 = _____

14. 28 – 6 = _____

15. 38 – 2 = _____

16. 35 – 8 = _____

17. 62 – 7 = _____

18. 84 – 6 = _____

19. 48 – 22 = _____

20. 56 – 34 = _____

21. 67 – 58 = _____

22. 71 – 19 = _____

23. 83 – 45 = _____

24. 95 – 56 = _____

25. John’s mother made 24 muffins. John and his friends ate 6 muffins after school. How many muffins were left? __________

26. Rebecca has 17 pairs of socks. 9 pairs are white. How many pairs are not white? __________

Spiral Review

Find each sum. Use estimation to check for reasonableness.

27. 445 + 338 = ________

28. $5.99 + 2.76 = ________

29. 1,762 + 2,354 = ________

30. $34.90 + 14.90 = ________

31. 4,444 + 6,888 = ________

32. $65.22 + $96.11 = ________

33. 1,232 + 4,330 = ________

34. $3.03 + 3.99 = ________
1. Kelly has 27 cousins. Twelve of the cousins are boys. How many cousins are girls?

2. Jeremy has collected 61 baseball caps from college and professional teams. Fifteen of the caps are from college teams. How many caps are from professional teams?

3. Maria’s swimming class will meet 50 times this year. She has already been to swimming class 34 times. How many more swimming classes does Maria have left this year?

4. It takes Dylan 47 minutes to get to his friend’s house. He left his home 18 minutes ago. How many more minutes will it take to get to his friend’s house?

5. Vanessa found 87 coins on the sidewalk. She gave 15 to her sister and 16 to her friend. How many coins does Vanessa have left?

6. Brandon had 75 math problems for homework. He did 12 at school. He did 10 when he got home. How many problems does Brandon still need to finish?
Homework Practice

Estimate Differences

Estimate each difference using rounding.

1. \( \frac{57}{-22} \)
2. \( \frac{177}{-63} \)
3. \( \frac{4.50}{-1.27} \)

Estimate each difference using compatible numbers.

4. \( \frac{68}{-22} \)
5. \( \frac{4.87}{-2.19} \)
6. \( \frac{215}{-92} \)

Estimate each difference using front-end estimation.

7. \( \frac{223}{-145} \)
8. \( \frac{8.35}{-4.62} \)
9. \( \frac{742\text{¢}}{-358\text{¢}} \)


11. Shannon’s scout troop sold 357 boxes of cookies last week. They started with 600 boxes to sell. About how many boxes do they have left to sell? ________

Spiral Review

Subtract. (Lesson 3–1)

12. \( \frac{32}{-1} \)
13. \( \frac{34}{-12} \)
14. \( \frac{43}{-8} \)
15. \( \frac{48}{-35} \)
16. \( \frac{58}{-9} \)
17. \( \frac{50}{-27} \)
18. \( \frac{62}{-8} \)
19. \( \frac{64}{-39} \)

20. David scored 25 points in his basketball game. Seven of his points were from free throws. The rest were goals from the field. How many points were from the field? ________________
Use estimation to solve.

1. A basketball coach won 132 games. He won 79 more games than he lost. About how many games did he lose?
   about _____ games

2. The bleachers in the gym can seat about 289 people. If there are 191 people in the gym, about how many more people can fit in the bleachers?
   about _____ more

3. The Chase Tower in Houston, Texas, is 1,002 feet tall. It is 499 feet taller than the Huntington Building. About how tall is the Huntington Building?
   about _____ feet tall

4. Arco Company has $8,050 to spend on office equipment. The company bought a computer for $2,885, a copy machine for $485, and a video camera for $1,005. If the company buys another computer, about how much will be left in the budget?
   about $ _____

5. Mr. Frasier has $875 in his savings account and $989 in his checking account. Mr. Willis has $1,289 in his savings account and $497 in his checking account. Who has more money in all?
   ____________________________
   About how much more?
   about $ _____ more

6. The Bank One Center in Dallas is 787 feet tall. It is 304 feet taller than the Harwood Center. Is the Harwood Center greater than or less than 500 feet tall?
   _____ than 500 feet tall
   Explain your answer.
   ____________________________
   ____________________________
   ____________________________
## Homework Practice

### Subtract Money

**Subtract.**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>38¢</td>
<td>2.</td>
<td>$0.84</td>
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<tr>
<td></td>
<td>3¢</td>
<td>3.</td>
<td>$95</td>
</tr>
<tr>
<td>4.</td>
<td>17¢</td>
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<tr>
<td>5.</td>
<td>$0.60</td>
<td>6.</td>
<td>$1.89</td>
</tr>
<tr>
<td></td>
<td>$0.45</td>
<td>7.</td>
<td>$7.67</td>
</tr>
<tr>
<td>8.</td>
<td>$8.14</td>
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<tr>
<td>9.</td>
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<td>10.</td>
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<tr>
<td></td>
<td>$0.45</td>
<td>11.</td>
<td>$0.25</td>
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<tr>
<td>12.</td>
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<td>13.</td>
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</thead>
<tbody>
<tr>
<td>15.</td>
<td>$4.43</td>
<td>16.</td>
<td>$6.96</td>
</tr>
<tr>
<td></td>
<td>$0.12</td>
<td>17.</td>
<td>$8.02</td>
</tr>
</tbody>
</table>

**18.** Joe has saved $25. He buys a CD for $16. How much money will he have left? _____

**19.** Courtney’s sister has $27.25 to buy dinner for her and her sister. Courtney’s dinner is $8.35. Her sister’s dinner is $9.25. How much money does Courtney’s sister have left? _____

### Spiral Review

**Estimate each difference using rounding. (Lesson 3–2)**

<p>| | | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>28</td>
<td>21.</td>
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</tr>
<tr>
<td></td>
<td>17</td>
<td></td>
<td>81</td>
</tr>
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</table>

**Estimate each difference using compatible numbers.**

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<thead>
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</thead>
<tbody>
<tr>
<td>23.</td>
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<tr>
<td></td>
<td>24</td>
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<td>78</td>
</tr>
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</table>

**Estimate each difference using front-end estimation.**

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<thead>
<tr>
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</thead>
<tbody>
<tr>
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<td>465</td>
<td>27.</td>
<td>525</td>
</tr>
<tr>
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<td>242</td>
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<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>28.</td>
<td>6.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Name _________________________ Date ________________

Problem-Solving Practice

Subtract Money

Solve.

1. Mr. Smith sold a $0.50 fruit bar to Molly. She gave him a $1 bill. How much change should Molly get?

2. Suppose you buy a book and get $1.57 in change. What bills and coins could the change be?

3. Amelia bought a $4.36 magazine and paid with a $10-bill. How much change does she get back? List the bills and coins of the change.

4. Marisa paid for a board game with a $10-bill. She received $1.68 in change. How much did the board game cost?

5. Leandro pays for his textbook with a $10-bill. He gets back a $1-bill, 1 quarter, and 2 dimes in change. How much change did he get?

6. Josh sold a CD to Vera for $5.55. Vera gave Josh a $10-bill for the CD. Josh has no quarters or dimes, but gives Vera the correct amount of change. Tell what bills and coins he may have given her.

7. Meredith earned $15.75 last week helping Mrs. Yen weed her garden. Meredith earned $18.50 this week helping Mr. Hunt in his garden. How much more did Meredith earn this week?

8. Chuck’s allowance is $25.00 a month. If he spends $12.89 on comic books and snacks this month, how much of his allowance does he save?

Grade 3

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Chapter 3
Solve. Check for reasonableness.

1. This weekend Emily drew 4 pictures for her friend. Then she drew 3 pictures for her grandmother and 2 pictures for her brother. She said she drew about 10 pictures. Is this reasonable? _____
   Explain. _______________________________________

2. Elizabeth has 13 yarn bracelets. She wants to have 20. She estimates she will need to make about 10 bracelets. Is this reasonable? _____
   Explain. _______________________________________

3. Megan and Daniel have a bag of 150 raisins. Megan eats 11 raisins, and Daniel eats 12. They think there are 130 raisins left in the bag. Is 130 a reasonable estimate? _____
   Explain. _______________________________________

Spiral Review

Subtract. (Lesson 3–3)

4. $0.71  
   – $0.54

5. $3.57  
   – $0.24

6. $6.29  
   – $5.40

7. $7.24  
   – $4.32

8. 64 – 33 _____  

9. 77 – 51 _____

10. $0.52 – $0.37 _____

11. $81 – $35 _____  

12. $7.21 – $3.36 _____

13. $131 – $65 _____
Homework Practice
Three-Digit Subtraction with Regrouping

Subtract. Check your answer.

1. 381
   - 165
   _______

2. 441
   - 57
   _______

3. $8.50
   - $2.43
   _______

4. $3.19
   - $1.75
   _______

5. 224 – 115 _____

6. 356 – 178 _____

7. 802 – 334 _____

8. $4.67 – $1.82 _____

9. $5.21 – $3.75 _____

10. $6.33 – $2.45 ______

ALGEBRA Find each missing digit.

11. 51[4]
    - 265
    _______

12. 385
    - 2
    _______

13. 4[9]
    - 112
    _______

14. The bike trail by James’s house is 215 yards long. The hiking trail by Hannah’s house is 118 yards long. How much longer is the bike trail by James’s house? _________________

Spiral Review Lesson 3–4

15. Pedro made 125 glasses of lemonade to sell at his stand. At the end of the day, there were 19 glasses left. He estimates that he sold about 100 glasses that day. Is this reasonable? _________________

   Explain. _________________________________________________________

16. Brianna picked up 99 cans cleaning up the park last week with her scout troop. This week they picked up 312. She estimates that the troop picked up about 200 more cans this week. Is this reasonable? ______

   Explain. _________________________________________________________
Solve.

1. There were 175 peaches at the fruit stand. Customers bought 82 of the peaches. How many peaches are left?

   ________ peaches

   Did you need to regroup ones? ________

   ________ tens? ________

2. Another crate has 272 red and green apples. There are 123 red apples in the crate. How many apples are green?

   ________ green apples

   Did you need to regroup ones? ________

   ________ tens? ________

3. Tanisha bought a pack of 225 sheets of paper for her homework. After a week, she has 198 sheets of paper left. How many sheets of paper did Tanisha use?

   ________ sheets

4. The school library would like to raise $915 to buy more books. So far, the library has raised $475. How much more money does the library need to reach its goal?

   ________ more

5. The health food store had 254 granola bars. They sold 85 bars yesterday and another 78 bars today. How many granola bars does the store have left?

   ________ granola bars

6. Evan has 85 baseball cards and 129 basketball cards. Alan has 312 football cards. Who has more cards in all?

   __________________________

   How many more cards?

   ________ more cards
Use any strategy shown below to solve. Tell what strategy you used.

• Estimate or an exact answer  • Reasonable answer  • Work backward

1. Mark is buying apples. They are $1.49 per pound. He wants to buy 3 pounds. About how much will he spend on apples?

   sample answer: estimate or an exact answer

2. Gabriel has 15 baseballs. He used to have 53 baseballs but lost some when he moved. How many baseballs did he lose?

3. Abbie has 287 beans on her plate. Her mother says she must eat until there are only 35 beans left. How many beans must Abbie eat?

Spiral Review

ALGEBRA Find each missing digit. (Lesson 3–5)

4.  
   \[
   \begin{array}{c}
   42 \\
   \hline
   156
   \end{array}
   \]

5.  
   \[
   \begin{array}{c}
   224 \\
   \hline
   \square6\square
   \end{array}
   \]

6.  
   \[
   \begin{array}{c}
   5\square6 \\
   \hline
   321
   \end{array}
   \]

   \[
   \begin{array}{c}
   \square2\square
   \end{array}
   \]
Name ___________________________ Date ___________________

3–7

Homework Practice

Subtract Greater Numbers

Subtract.

1. 1,816
   \[ \text{______} \]
   \[-429 \]

2. 3,659
   \[ \text{______} \]
   \[-2,485 \]

3. $4,718
   \[ \text{______} \]
   \[-1,962 \]

4. 7,613
   \[ \text{______} \]
   \[-5,549 \]

5. 1,237
   \[ \text{______} \]
   \[-863 \]

6. 2,689
   \[ \text{______} \]
   \[-1,156 \]

7. $2,879
   \[ \text{______} \]
   \[-$1,675 \]

8. 3,466
   \[ \text{______} \]
   \[-2,132 \]

9. $4,768
   \[ \text{______} \]
   \[-$3,021 \]

10. $7,547
   \[ \text{______} \]
    \[-$5,223 \]

11. There are 5,280 feet in a mile. Chloe has already walked 1,753 feet. How much farther does she need to walk to complete a mile?
   
   \[ \text{______} \]

12. Seth has 2,374 Legos to build with. He used 1,142 to build a car. How many Legos does he have left?
   
   \[ \text{______} \]

Spiral Review

Use any strategy shown below to solve. Tell what strategy you used. (Lesson 3–6)

13. 15 friends were playing at the park. 2 left to go to soccer practice. 4 left to go home. And 3 more left to go to the library. How many friends are left at the park?

   \[ \text{______} \]

14. Seth’s bus brings 37 kids to school. The next bus brings 42. If 118 kids come to school by bus, how many are on the third bus?

   \[ \text{______} \]
3–7

Problem-Solving Practice

Subtract Greater Numbers

Solve.

1. A library has 2,220 books about sports and 1,814 books about animals. How many more sports books are there than animal books?

   _______________ more books

2. At the book sale, Sharika paid for a book with a $5 bill. She got back $3.85 in change. What was the price of the book?

   $ ____________

3. In the 2007 NFL season, one receiver rushed for 1,509 yards. Another receiver rushed for 1,139 yards, and a running back rushed for 1,435 yards. How many more yards were rushed by the first receiver than the running back?

   _______________ more yards

4. Pittsburgh University won the college football championship in 1937. They won again in 1976. How many years were there between championships?

   _______________ years

5. Jeff bought two tickets to a baseball game. Each ticket cost $12.75. He paid with $30. How much change should he get back?

   $ ____________

6. The baseball stadium has 48,500 seats. One week before the game there were still 9,956 seats left. The day of the game there were 4,089 seats left. How many seats were sold during the week before the game?

   _______________ seats

   How many seats were sold by the day of the game?

   _______________ seats
Subtract. Check your answer.

1. 100
   - 27

2. 301
   - 172

3. 500
   - 165

4. 702
   - 234

5. $4.00 - $1.38

6. $6.00 - $4.22

7. $7.02 - $3.75

8. 301 - 28

9. 200 - 143

10. 803 - 336

11. 100 of the third graders wear backpacks to school.
    67 of the second graders wear backpacks to school.
    How many more third graders wear backpacks?

12. Kayla has $5.00. She buys a pencil for $0.87.
    How much money does she have now?

Spiral Review

Subtract. (Lesson 3–7)

13. 1,426
    - 389

14. 2,255
    - 1,343

15. $3,678
    - $1,836

16. $5,491
    - $1,762

17. Morgan has a high score of 9,875 on her favorite game. Her brother can score 6,548. What is the difference between their scores?
Problem-Solving Practice

Subtract Across Zeros

Solve.

1. The best bowler in the Junior Bowler’s League scored 150 points. Jason scored 125 points. How many points higher did the best bowler score than Jason?

   ___________ points higher

2. There are 70 bowlers in the league this year. There were only 54 bowlers last year. How many more bowlers joined the league this year?

   ___________ more bowlers

<table>
<thead>
<tr>
<th>Votes for School President</th>
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<tbody>
<tr>
<td>Candidate</td>
</tr>
<tr>
<td>Ariana</td>
</tr>
<tr>
<td>Miguel</td>
</tr>
<tr>
<td>Tyrone</td>
</tr>
</tbody>
</table>

Use the chart to solve.

3. How many more votes did the winner get than Miguel?

   ___________ more votes

4. How many more votes did Tyrone need to win the election?

   ___________ more votes

Solve.

5. Harrison and Jordan played 3 computer games. Jordan scored 124 points in the first game and 268 points in the second game. Harrison scored a total of 600 points for all 3 games. How many points does Jordan need in the third game to beat Harrison’s score?

   ___________ points

6. Keisha is saving money for a new computer that costs $480. She has saved $175. She found a coupon for $50 off the price of the computer. How much more money does Keisha need to save to buy the computer?

   $ ___________ more
Write an expression to describe each problem. Then solve.

1. Luis needs 4 blue marbles, 8 striped marbles, 12 green marbles, and 18 red marbles for his game. How many marbles does he need?

2. Shelby made 15 bracelets. Her mother made 43. How many more bracelets did Shelby’s mother make?

Use the data to write a number sentence for each of the following.

3. sum of all the votes

4. sum of votes for basketball and volleyball

5. difference of votes for soccer and lacrosse

Spiral Review

Subtract. Check for reasonableness. (Lesson 3-8)

6. 200
   \[ \underline{-43} \]

7. 302
   \[ \underline{-166} \]

8. 400
   \[ \underline{-248} \]

9. 601
   \[ \underline{-526} \]
Write an expression and a number sentence for each problem. Then solve.

1. Robert is 47 inches tall. His older brother Randy is 65 inches tall. How much taller is Randy than Robert?
   
   ________ inches taller
   

2. Robert weighs 52 pounds. Randy weighs 68 pounds more than Robert. How much does Randy weigh?
   
   ________ pounds
   

3. A new house has 1,252 square feet of floor space. The owner plans to cover 590 square feet with carpeting and the rest with hardwood. How many square feet of hardwood will the owner need?
   
   ________ square feet
   

4. A can of paint can cover 475 square feet. If the painter has 2 cans of paint, can he cover 900 square feet of walls?
   Explain your answer.
   

5. Heather and Aaron each bought a set of markers. Heather paid $3.15 for her set. Aaron paid with a $5-bill. He got back $2.35 in change. How much more were Heather’s markers than Aaron’s?
   
   $ ________ more
   

6. There are 500 sheets of art paper in a pack. The pack has 125 white sheets, 135 black sheets, and 115 yellow sheets. The rest of the sheets are red. How many red sheets of art paper are in the pack?
   
   ________ red sheets
Write an addition and a multiplication sentence for each model.

1. 

2. 

Multiply. Use repeated addition.

3. \(8 \times 3 = \) _____  
4. \(4 \times 6 = \) _____  
5. \(8 \times 4 = \) _____   
6. \(3 \times 9 = \) _____  
7. \(7 \times 6 = \) _____   
8. \(9 \times 10 = \) _____

Spiral Review

Write an expression to describe each problem. Then solve. (Lesson 3–9)

9. Jennifer needs 4 blue strings, 8 red strings, 12 green strings, and 18 pink strings to make friendship bracelets. How many strings does she need?

10. Allison made 21 mini pizzas for the party. Angela made 33 mini pizzas. How many more pizzas did Angela make?
Problem-Solving Practice

Multiplication as Repeated Addition

Write an addition and a multiplication sentence. Then solve.

1. There are 3 people sitting at each of 4 tables. How many people are there in all?

2. Alisa needs to put 2 forks at each of 8 table settings. How many forks in all does she need?

3. Renee jogs 5 miles a day, 4 days each week. How many miles does she jog each week?

4. Henry lives 3 miles away from the mall. Henry can run a mile in 6 minutes. If he can keep up this speed, how long will it take him to run to the mall?

5. It takes Sam 5 minutes to wash a window. Sam has 9 windows in his house to wash. If he starts washing at 9:30 A.M., at what time will he finish?

6. Heather spent $4 for a salad and $2 for a drink. She bought the same lunch for 3 of her friends. She paid with three $10-bills. How much change did she get back?
Write a multiplication sentence for each array. Then multiply.

1. △ △ △
   △ △ △
   3 × 3 = 9

2. 🐥 🐥 🐥 🐥 🐥 🐥 🐥 🐥
   🐥 🐥 🐥 🐥 🐥 🐥 🐥 🐥
   8 × 8 = 64

3. ⬞ ⬞ ⬞
   ⬞ ⬞ ⬞
   3 × 3 = 9

4. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
   ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
   ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
   10 × 10 = 100

Use the Commutative Property of Multiplication to find the missing number.

5. 3 × 6 = 18  ☐ × 3 = 18
6. 7 × 4 = 28  4 × ☐ = 28
7. 8 × 6 = 48  6 × 8 = ☐
8. 5 × 2 = 10  ☐ × 5 = 10

Spiral Review

Write an addition and a multiplication sentence. Then solve. (Lesson 4–1)

9. ⬞ ⬞ ⬞
Problem-Solving Practice

Arrays and Multiplication

Solve.

1. Mr. Turner has 4 students in each of 5 math groups. Draw an array of circles to show how many students there are in all.
   _____ students

2. Four students have 3 pencils each. Draw an array of circles to show how many pencils there are in all.
   _____ pencils

3. The top shelf in the bakery has 5 muffins on each of 6 plates. The bottom shelf has 6 muffins on each plate. Both shelves have the same number of muffins. How many plates are on the bottom shelf?
   _____ plates
   How many muffins are on each shelf?
   _____ muffins

4. Each baker uses the same number of cherries. Tanya puts 3 cherries on each of 6 pies. Russell puts cherries on 3 pies. If Russell puts the same number of cherries on each pie, how many cherries does he need?
   _____ cherries
   How many cherries did each baker use?
   _____ cherries

5. Leroy and Vern each have the same number of video games. Leroy puts an equal number of games in each of 7 boxes. Vern has only 3 boxes. He puts 7 games in each box. How many video games do Leroy and Vern have altogether?
   _____ video games

6. Ray makes an array that has 4 rows of 4 counters. He wants to make two more arrays using the same number of counters. He wants more than one counter in each row. What two arrays can he make?

   ____________________________
Multiply.

1. 〇〇〇〇
   〇〇〇〇
   〇〇〇〇
   〇〇〇〇

Multiply. Draw a picture or use an array.

3. \(5 \times 2 \)  
4. \(2 \times 3 \)  
5. \(4 \times 2 \)  
6. \(7 \times 2 \)  
7. \(2 \times 9 \)

8. \(2 \times 8 \)  
9. \(2 \times 2 \)  
10. \(6 \times 2 \)  

Write a multiplication sentence for each situation. Then solve.

11. There are 4 boys. How many total arms and ears do they have?

12. John is jumping on a pogo stick. He is counting by twos. If he counted to 24, how many jumps has he made?

Spiral Review

Use the Commutative Property of Multiplication to find each missing number. (Lesson 4–2)

13. \(4 \times 7 = 28 \)  
14. \(6 \times 2 = 12 \)  
15. \(5 \times 3 = 15 \)

\[ 7 \times \square = 28 \]  
\[ \square \times 6 = 12 \]  
\[ \square \times 5 = 15 \]
Write an expression for each situation. Then solve.

1. There are 2 daisies in each vase. There are 8 vases. How many daisies are there in all?
   
   ________________

   ____ daisies

2. Maria plants 2 tomato seeds in each flower pot. If there are 6 flower pots, how many tomato seeds did Maria plant?
   
   ________________

   ____ tomato seeds

3. There are 7 people in the Smith family. They all keep their gloves in one box in the closet. Each person has 2 pairs of gloves. How many pairs of gloves are in the box?
   
   ________________

   ____ pairs of gloves

4. Dad paid the cashier with two $5 bills. How much money did he pay?
   
   ________________

   $ ____

5. Letti is coloring 9 flowers on two pages. How many flowers will Letti color?
   
   ________________

   ____ flowers

6. There are 4 children in a line. How many legs are there in all?
   
   ________________

   ____ legs
Homework Practice

Multiply by 4

Multiply.

1. 4 \times 2
2. 6 \times 4
3. 3 \times 4
4. 4 \times 7
5. 8 \times 4

6. 4 \times 5
7. 4 \times 9
8. 7 \times 4
9. 4 \times 8
10. 9 \times 4

11. 2 \times 4
12. 4 \times 4
13. 6 \times 4

14. 4 \times 0
15. 4 \times 10
16. 4 \times 1

Write a multiplication sentence for each situation. Then solve.

17. There are 5 cars. How many total wheels do they have?

18. There are 4 snakes and each snake has two eyes. What is the total number of eyes?

19. A toy comes with 6 parts in each box. If you have 4 boxes of toys, how many parts are there altogether?

Multiply. Draw a picture or use an array. (Lesson 4–3)

20. 9 \times 2 =
21. 2 \times 4 =
22. 2 \times 10 =

23. 2 \times 8 =
24. 6 \times 2 =
25. 7 \times 2 =
Problem-Solving Practice

Multiply by 4

Write a multiplication sentence for each situation. Then solve.

1. The straight part of Eli’s train track has 4 tracks. Each track is 7 inches. How many inches long is the straight part of the train track?

   _______ inches

2. Melissa owns 4 sets of trains. Each set has 6 train cars. How many train cars does Melissa have in all?

   _______ cars

3. The border around a bulletin board is 35 inches long. There are 4 pieces of border paper left. Each piece is 9 inches long. Is there enough border paper to go around the bulletin board border? Explain.

   ______________________
   ______________________
   ______________________

4. There are 4 groups of students in charge of decorating the hallway bulletin boards. Each group decorates 8 different boards around the school. How many bulletin boards are there in all?

   ______________________
   ______________________
   ______________________

5. Paula can make 4 beaded bracelets in an hour. In one week Paula made bracelets for 6 hours. How many bracelets did she make? Explain.

   ______________________

6. Every bracelet has 4 blue beads. If Jackie makes 5 bracelets, how many of blue beads will she use?

   ______________________
1. Ronnie is making banana bread for a fundraiser. He needs to make 10 loaves of bread. Each loaf needs 5 bananas. Each loaf will sell for $2.00. How many bananas will he need to purchase?

2. Ace wants to buy pencils for his class. There are 29 students in his class. One pack contains 12 pencils. Each pack costs $2.25. How much change will he get back from 2 $5-bills?

3. Erin bought a 4-pack of books for $6.95. Jackie bought the same 4-pack of books for $9.95. Sue spent $12.95 for the books she bought. How much more money did Sue spend on her books?

4. Naya has twelve jacks. She gives away 6 to Jane and 3 to Heather. Hannah does not have any jacks. How many jacks does Naya have left?

5. Juan bought 2 tires for his bike. His bike cost $65. How much did he spend on the 2 tires?

Solve. If there is missing information, tell what facts you need to solve the problem. If there is extra information, write it on the line provided.

### Spiral Review

Multiply. (Lesson 4–4)

**6.** $2 \times 4 = \_\_\_\_\_\_

**7.** $6 \times 4 = \_\_\_\_\_\_\_

**8.** $8 \times 4 = \_\_\_\_\_\_\_\_

**9.** $4 \times 5 = \_\_\_\_\_\_\_\_
Multiply. Draw a picture or use an array.

1. \[ 5 \times 2 \]
2. \[ 5 \times 9 \]
3. \[ 5 \times 4 \]
4. \[ 5 \times 7 \]
5. \[ 8 \times 5 \]

6. \[ 7 \times 5 \]
7. \[ 5 \times 8 \]
8. \[ 5 \times 1 \]
9. \[ 5 \times 6 \]
10. \[ 9 \times 5 \]

11. \[ 6 \times 5 \]
12. \[ 3 \times 5 \]
13. \[ 5 \times 5 \]

14. Katie paid for her new bike with twelve $5 bills. Her change was $4. How much did the bike cost? ______

15. Sean has 4 nickels. How many walnuts can he buy if they are 5 cents each? ______

16. Each pair of tennis shoes costs $25.00. If Andrea has four $5 bills, does she have enough to buy 1 pair? _____

ALGEBRA Find each missing number.

17. \[ 8 \times \square = 40 \]
18. \[ 5 \times \square = 25 \]
19. \[ 7 \times \square = 35 \]
20. \[ 5 \times \square = 45 \]

Solve. If there is missing information, tell what facts you need to solve the problem. If there is extra information, write it on the line provided. (Lesson 4–5)

21. A group of children is going to the movies. The price of admission is $4.95 each. If there are 6 children and 2 adults, and 4 seats in each car, how many cars will they take? 

22. If Grant wants to adopt a cat and he brings four $10 bills, will he have enough money?

__________________________
Write an expression for each situation. Then solve.

1. There are 2 flowers in each vase. There are 5 vases. How many flowers are there in all?

   ____________ flowers

2. Maria plants 5 seeds in each pot. If there are 6 pots, how many seeds did Maria plant?

   ____________ seeds

3. There are 4 people in the Jones family. They all keep their shoes in one closet. Each person has 5 pairs of shoes. How many pairs of shoes are in the box?

   ____________ pairs of shoes

4. Mom bought five soccer balls. She paid with eight $5-bills. She did not get any change back. How much did the balls cost?

   ____________

5. Trish is coloring 7 flowers on a page. Each flower has 5 petals. How many petals must she color to finish?

   ____________ petals

6. Mrs. Ortiz bought 8 coloring books as party favors. The books are $5 each. She paid with two $20-bills. Will Mrs. Ortiz get any change back?

   ____________
Multiply.

1. 10 \times 2
2. 10 \times 9
3. 10 \times 4
4. 10 \times 8
5. 10 \times 5

6. 10 \times 3
7. 7 \times 10
8. 10 \times 1
9. 4 \times 10
10. 10 \times 6

11. 8 \times 10
12. 10 \times 7
13. 9 \times 10

14. 10 \times 10
15. 5 \times 10
16. 6 \times 10

17. There are 10 cats and 5 dogs. How many total legs are there?

18. A farmer has 10 cows. How many eyes and ears do the cows have?

Spiral Review

Multiply. (Lesson 4–6)

19. 5 \times 4
20. 7 \times 5
21. 5 \times 5

22. 5 \times 6
23. 8 \times 5
24. 5 \times 3

25. 9 \times 5
26. 6 \times 5
27. 5 \times 8

28. 5 \times 7
29. 2 \times 5
30. 5 \times 9
Write a multiplication sentence for each situation. Then solve.

1. In a game, Carlos ran with the football three times. Each time, he ran 10 yards. How many yards did he run?

   ____________________________
   ______ yards

2. The Appletown Zoo has 10 monkeys. Each monkey gets one banana a day. How many bananas do the monkeys eat each day?

   ____________________________
   ______ bananas

3. Hal shoes horses on a farm. Today he put horseshoes on all the hooves of 10 horses. How many horseshoes did he put on?

   ____________________________
   ______ horseshoes

4. Nine women have an appointment at the nail salon. Kiki will polish all of their fingernails. How many fingernails will Kiki polish today?

   ____________________________
   ______ fingernails

5. Ellen drives a van for the animal shelter. The van holds 10 animals. This week she made 6 trips to the shelter. How many animals did she drive?

   ____________________________
   ______ animals

6. A children’s TV show is on 10 days each month. On every show, Burton the Clown plays 3 songs. In the last month, he sang six of all the songs that were played. How many times did he not sing last month?

   ____________________________
   ______ times
Use any strategy shown below to solve. Tell what strategy you used.

**PROBLEM-SOLVING STRATEGIES**

- Act it out
- Draw a picture
- Look for a pattern

1. Four children and 1 adult are going to a movie at 4 P.M. The price of a ticket is $10.00 for an adult and $6.00 for a child. Movie tickets for shows before 6 P.M. are half price. How much will they pay for their tickets?

2. In a pile of laundry there are 14 pairs of socks, 10 shorts, and 12 shirts. How many pieces of clothing are there altogether?

3. Janice saw 8 dogs, 4 cats, and 19 frogs for sale in the pet store. If the store sells 2 dogs and 1 cat each week, how many dogs and cats will there be at the end of the month?

4. Each dog owner paid $50 for a training class. If there are 3 classes in all, how much did each owner pay?

**Spiral Review**

Multiply. (Lesson 4–7)

5. 10 × 4 = _______ 6. 8 × 10 = _______ 7. 10 × 7 = _______
8. 9 × 10 = _______ 9. 10 × 6 = _______ 10. 5 × 10 = _______
Multiply.

1. \(10 \times 0\)  
2. \(5 \times 1\)  
3. \(0 \times 3\)  
4. \(4 \times 1\)  
5. \(1 \times 8\)  
6. \(1 \times 6\)

7. \(2 \times 1\)  
8. \(8 \times 0\)  
9. \(9 \times 1\)  
10. \(1 \times 5\)  
11. \(7 \times 1\)  
12. \(0 \times 9\)

Write a multiplication sentence for each situation.

13. Jimmy collects stamps. If he gets 1 stamp a day for 12 days, how many stamps will he add to the collection?

14. Louis has 5 boxes. Each box contains 1 marble. How many marbles does he have?

15. Joan has 9 goldfish. How many total legs are there?

16. Each shirt has 1 pocket. How many total pockets do 11 shirts have?

Solve. (Lesson 4–8)

17. Jane collected 4 bugs every day for 10 days. How many bugs does she have?

18. Alfonso picked 14 oranges and twice as many lemons. How many apples did he pick?
1. Laura went to the library. She saw 1 student at each of the 6 tables. How many students did she see altogether?

2. There are 10 cats. Each cat has 1 stripe on its tail. How many stripes are there in all?

3. There are 8 whales. How many legs are there?

4. There are 2 alligators. How many wings do they have?

5. One cat and 4 dogs live in the same house. How many total noses are there?

6. A boy has 2 jars. Each jar has 1 penny. How many pennies does he have?

7. One muffin has 12 chocolate chips in it. How many total chips are there?
Multiply by 3

Multiply.

1. $3 \times 3 = \underline{9}$
2. $3 \times 5 = \underline{15}$
3. $5 \times 3 = \underline{15}$
4. $9 \times 3 = \underline{27}$
5. $4 \times 3 = \underline{12}$
6. $10 \times 3 = \underline{30}$
7. $8 \times 3 = \underline{24}$
8. $3 \times 7 = \underline{21}$
9. $6 \times 3 = \underline{18}$
10. $1 \times 3 = \underline{3}$

Solve.

11. The parking lot has 3 rows of cars. There are 6 cars in each row. How many cars are in the parking lot?

12. Mary has 3 dimes in her pocket. Each dime equals 10 pennies. If she traded her dimes for pennies, how many pennies would she have?

Spiral Review

Multiply. (Lesson 4–9)

13. $0 \times 3 = \underline{0}$
14. $1 \times 5 = \underline{5}$
15. $1 \times 6 = \underline{6}$
16. $0 \times 9 = \underline{0}$
17. $0 \times 1 = \underline{0}$
18. $2 \times 0 = \underline{0}$
19. $8 \times 1 = \underline{8}$
20. $1 \times 0 = \underline{0}$
21. $1 \times 4 = \underline{4}$
22. $2 \times 1 = \underline{2}$
23. $5 \times 0 = \underline{0}$
24. $0 \times 1 = \underline{0}$
Problem-Solving Practice

Multiply by 3

Solve.

1. Sean and Dave are playing with toy racecars. Sean has his cars lined up in 3 rows. He has 5 cars in each row. How many cars does he have in all?

2. Dave has 4 rows of cars lined up. He has 3 cars in each row. How many cars does Dave have in all?

3. The boys are sharing some special cars. They have 2 rows of special cars with 3 in each row. How many special cars do they have in all?

4. Dave’s mom said that she would buy them more special cars. These cars cost $3 each. If she buys the boys 3 more, how much will she have to spend?

5. The boys used their building blocks to create a wall for the cars to drive through. They plan to stack the blocks 3 across and 9 up. How many blocks do they need to build the wall?

6. After they finish the wall, Dave and Sean each have 3 extra blocks. Two of these blocks are broken. How many extra blocks do they have left that are not broken?
Multiply by 6

Multiply.

1. $6 \times 4 = _____$
2. $3 \times 6 = _____$
3. $6 \times 8 = _____$
4. $4 \times 6 = _____$
5. $6 \times 0 = _____$
6. $6 \times 1 = _____$
7. $6 \times 9 = _____$
8. $9 \times 6 = _____$
9. $5 \times 6 = _____$
10. $7 \times 6 = _____$

Solve.

11. Brad’s rabbit has 6 whiskers on both sides of its face. How many whiskers does the rabbit have on its face?

12. Jan has 4 insects in a jar. Each insect has 6 legs each. How many legs in all?

Spiral Review

Multiply. (Lesson 5–1)

13. $3 \times 9 = _____$
14. $3 \times 7 = _____$
15. $6 \times 3 = _____$
16. $5 \times 3 = _____$
17. $4 \times 3 = _____$
18. $8 \times 3 = _____$
19. $0 \times 3 = _____$
20. $7 \times 3 = _____$
21. $3 \times 2 = _____$
22. $3 \times 4 = _____$
23. $3 \times 8 = _____$
24. $9 \times 3 = _____$
1. Cindy and Mandy went to the beach. They each found 6 starfish. How many starfish do they have in all?

2. Each of the 6 starfish has 5 arms. The girls counted them all. How many starfish arms did the girls count?

3. The girls made a sandcastle with 3 waterways leading to each of their 6 towers. How many waterways did they dig all together?

4. The girls each carried 6 pails with them to the beach. They found out that they really did not need so many pails, so they let a group of children use 4 of their pails. How many pails do the girls still have left to use?

5. Cindy has 6 dimes that she can spend on stickers. Each sticker costs 5¢. Does she have enough money to buy 6 stickers? Explain.

6. Write a problem that can be solved by multiplying by 6.
5–3

Homework Practice

Problem-Solving Strategy

Solve.

1. Every home on Main Street has a dog and other pets. The first house has 1 dog and 1 cat. The second house has 1 dog and 2 cats. The third house has 1 dog and 3 rabbits. The fourth house has 1 dog and 4 angel fish. If the pattern continues, the fifth house has 1 dog and how many hamsters?

2. Ann is a pet babysitter. She gets paid to help the families on Main Street with their pets every day. The first week she earned $2. The second, $4. The third, $6. The fourth, $8. What did she earn by the seventh week?

3. Ann decided to set up a pet parade. She had the pet owners walking in rows with their pets. In the first row she put 1 owner with 1 pet. The second row had 2 owners with 1 pet each. The third row had 1 pet owner and 2 pets. The fourth row had 2 pet owners with 2 pets each. The fifth row had 1 pet owner with 3 pets. If the pattern continues, what did the sixth row have?

Spiral Review

Multiply. (Lesson 5–2)

4. 3 × 6 = _____
5. 4 × 6 = _____
6. 6 × 6 = _____
7. 7 × 6 = _____
8. 6 × 8 = _____
9. 6 × 5 = _____

Grade 3 75

Chapter 5
Multiply.

1. \(7 \times 3 = \) _____ 
2. \(5 \times 7 = \) _____
3. \(6 \times 7 = \) _____
4. \(7 \times 7 = \) _____
5. \(7 \times 8 = \) _____
6. \(9 \times 7 = \) _____
7. \(4 \times 7 = \) _____
8. \(7 \times 6 = \) _____
9. \(7 \times 10 = \) _____
10. \(7 \times 1 = \) _____
11. \(7 \times 0 = \) _____
12. \(7 \times 5 = \) _____
13. \(7 \times 4 = \) _____
14. \(7 \times 9 = \) _____
15. \(8 \times 7 = \) _____
16. \(7 \times \) _____ = 35
17. _____ \(\times 7 = 14\)
18. _____ \(\times 7 = 49\)

Solve. Use the look for pattern strategy. (Lesson 5–3)

19. Fred collected sports cards. He got the same number of new cards each week and sold the same number out of ones that he had. Week 1, he had 10 cards and sold 2. Week 2, he got 10 more and sold 2, giving him 16. Week 3, he got 10 more and sold 2, giving him 24. How many cards did he have by the end of Week 4?

20. After collecting more cards, Fred decided to put his cards in order. He numbered all the cards related to baseball players 1. He numbered all the football cards 2. He numbered all the basketball cards 3. He has a total of 50 cards, with an equal number of number 2 and number 3 cards. He has 20 number 1 cards. How many number 2 cards does he have?
Solve.

1. The Martins will buy 2 new tires for all 7 of their bicycles. How many new tires will they buy?  
   
   **14 new tires**

2. It takes Cally 3 minutes to paint each slat on a fence. There are 7 slats in each section of the fence. How long will it take Cally to paint each section of the fence?

3. Each house on Alpine Street has 7 front windows. There are 3 houses on each side of the street. How many front windows are there in all?

4. Mario will go on vacation for 8 weeks this summer. For how many days will Mario be on vacation?

5. Nell bought 3 pairs of white socks and 4 pairs of black socks. Each pair cost $6. Then she bought a $5.75 hat. She got back $12.25 in change. How much did Nell give to the cashier to pay for the socks and hat? Show your work.

6. There are an equal number of cars and bicycles in the garage. If there are 42 tires in all, how many bicycles and cars are in the garage? Explain.
**5–5 Homework Practice**

*Multiply by 8*

**Multiply.**

1. \(8 \times 3 = \) 
2. \(5 \times 8 = \) 
3. \(6 \times 8 = \) 
4. \(7 \times 8 = \) 
5. \(8 \times 8 = \) 
6. \(9 \times 8 = \) 
7. \(4 \times 8 = \) 
8. \(8 \times 6 = \) 
9. \(8 \times 10 = \) 
10. \(8 \times 1 = \) 
11. \(8 \times 0 = \) 
12. \(8 \times 5 = \) 
13. \(8 \times 4 = \) 
14. \(8 \times 9 = \) 
15. \(8 \times 8 = \) 
16. \(7 \times \_ = 56\) 
17. \(\_ \times 8 = 24\) 
18. \(\_ \times 8 = 64\)

**Spiral Review**

Multiply. (Lesson 5–4)

19. \(7 \times 5 = \) 
20. \(4 \times 7 = \) 
21. \(10 \times 7 = \) 
22. \(7 \times 7 = \) 
23. \(7 \times 8 = \) 
24. \(9 \times 7 = \) 
25. \(2 \times 7 = \) 
26. \(7 \times 6 = \) 
27. \(7 \times 10 = \) 
28. \(7 \times 1 = \)

**Solve.**

29. Fred has collected a total of 80 cards. A display of Fred’s cards includes 2 rows of football cards with 15 in each row. In front of the football cards are 3 rows of baseball cards with 10 in each row. In front of the baseball cards are 4 rows of basketball cards. If the pattern continues, how many basketball cards are in each of the 4 rows?
Problem-Solving Practice

Multiply by 8

Solve.

1. Find the total number of dolphins if there are 8 groups of dolphins with 5 dolphins in each group.

2. A dolphin has 3 types of fins, including 2 flippers, 1 dorsal fin, and a tail fin. How many total fins does a dolphin have?

3. Eight dolphins are swimming around a tour boat. Each dolphin swims around the boat 8 times. How many times did all the dolphins swim around the boat?

4. The 8 tourists on the boat were able to touch 4 dolphins each. What was the total number of times a dolphin got touched?

5. Using their tail fins, 7 dolphins jumped in the air 8 times. What was the total number of jumps the dolphins made?

6. Eight tourists each took 3 photos of the dolphins. How many dolphin photos were taken in all?
Multiply by 9

Multiply.

1. \( 9 \times 3 = \) _____  
2. \( 5 \times 9 = \) _____  
3. \( 6 \times 9 = \) _____  
4. \( 7 \times 9 = \) _____  
5. \( 9 \times 8 = \) _____  
6. \( 9 \times 9 = \) _____  
7. \( 4 \times 9 = \) _____  
8. \( 9 \times 6 = \) _____  
9. \( 9 \times 10 = \) _____  
10. \( 9 \times 1 = \) _____  
11. \( 9 \times 0 = \) _____  
12. \( 9 \times 5 = \) _____  
13. \( 9 \times 4 = \) _____  
14. \( 8 \times 9 = \) _____  
15. \( 9 \times 8 = \) _____  
16. \( 9 \times _____ = 36 \) 
17. _____ \( \times 9 = 45 \)  
18. _____ \( \times 6 = 54 \)  

Spiral Review

Multiply. (Lesson 5–5)

19. \( 8 \times 5 = \) _____  
20. \( 8 \times 7 = \) _____  
21. \( 10 \times 8 = \) _____  
22. \( 7 \times 8 = \) _____  
23. \( 7 \times 8 = \) _____  
24. \( 9 \times 8 = \) _____  
25. \( 2 \times 8 = \) _____  
26. \( 8 \times 6 = \) _____  
27. \( 8 \times 10 = \) _____  
28. \( 8 \times 1 = \) _____  

ALGEBRA  Complete the table.

29.  

<table>
<thead>
<tr>
<th>Factor</th>
<th>4</th>
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<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Product</td>
<td>_____</td>
<td>45</td>
<td>63</td>
<td>81</td>
</tr>
</tbody>
</table>

30. Look back over the page. Circle all of the answers that are odd numbers.
Problem-Solving Practice

Multiply by 9

Solve

1. Jose spends $9 on lunch each day. How much does he spend for lunch in 2 days?

2. Carmen’s parrot eats 9 crackers a day. How many crackers will it eat in 4 days?

3. On Mr. Dugan’s farm, 9 cows can be milked in an hour. Mr. Dugan says that 45 cows will be milked in 5 hours. Is he correct? Explain.

4. The So Rich cookie factory can bake 9 chocolate chip cookies a minute. Can the factory fill an order for 80 cookies in 9 minutes? Explain.

5. For the school talent contest, 9 singers will perform for 3 minutes each. Then 5 dancers will perform for 4 minutes each. There will be a 15-minute intermission between the singing and dancing performances. If the show starts at 2:00 P.M., at what time will it end?

6. Ty works 9 hours a day and earns $6 an hour. Cal works 6 hours a day and earns $9 an hour. If they both work 5 days per week, who earns more money? Who works longer? Explain.
Solve. Use any strategy.

1. Bob rode 2 miles on his bike for 9 days. What is the total number of miles he rode?

2. Two toads are near the path. Together, they have 6 dark spots on them. The larger one has 2 times as many spots as the smaller one. How many spots does each one have?

3. Mandy has $10. Becky has $5 more than Mandy. Pat has 2 times as much as Becky. How much money do the girls have together?

4. 36 students were standing in the lunch line. The principal gave the first girl a star. Then, he gave every sixth person in back of the girl a star. How many people got stars?

Spiral Review

Multiply. (Lesson 5–6)

5. 9 × 6 = _____
6. 9 × 10 = _____
7. 9 × 1 = _____
8. 9 × 0 = _____
9. 9 × 7 = _____
10. 9 × 4 = _____
11. 8 × 9 = _____
12. 9 × 9 = _____
13. 9 × _____ = 18
14. _____ × 8 = 72
Find each product.

1. \(1 \times 2 \times 3 = \) 
2. \(5 \times 2 \times 4 = \)
3. \(8 \times 5 \times 2 = \)
4. \(3 \times 5 \times 1 = \)
5. \(7 \times 2 \times 1 = \)
6. \(8 \times 8 \times 0 = \)
7. \(3 \times 3 \times 7 = \)
8. \(4 \times 3 \times 2 = \)
9. \(2 \times \frac{1}{2} \times 2 = 4\)
10. \(3 \times \frac{1}{2} \times 1 = 12\)
11. \(\frac{1}{2} \times 4 \times 2 = 56\)
12. \(\frac{1}{2} \times 2 \times 3 = 30\)

Solve. (Lesson 5–7)

13. Angie collects pairs of earrings. She hangs them on an earring tree. On the first row she hung 9 pairs, on the second row she hung 7 pairs, and on the third row she hung 5 pairs. If she continued this pattern, how many pairs would Angie hang on the fourth row? How many pairs of earrings does she have in all four rows?

14. Fred made a display with a deck of playing cards. In the first row he used 6 cards. In the second row he used 12 cards. In the third row he used 18. In the fourth row, 24. If the pattern keeps up, how many cards will be in the sixth row?
Problem-Solving Practice

Algebra: Associative Property

Solve.

1. Mallory and her friends are setting up a lemonade stand. Mallory found out that making lemonade means squeezing 4 lemons into 2 cups of water. To make 12 cups of lemonade, how many lemons do the girls have to squeeze?

2. Mallory set up 2 tables with 3 containers of lemonade on each. Each container has 8 ice cubes. Write a number sentence to find the number of ice cubes she used.

3. Two of Mallory’s friends were each serving three customers at each table. Write a number sentence to show the number of customers the girls were serving.

4. Every hour, 5 people stopped for lemonade and spent $2 each. After 4 hours, how much had the girls earned?

5. At the end of the day, the 9 girls each had two $5 bills and two $1-bills. How much did the girls earn all together?
Write the rule for each table. Then complete the table.

<table>
<thead>
<tr>
<th>Rule:</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>15</td>
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</tr>
<tr>
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<td>9</td>
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<td>3</td>
<td>24</td>
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<td>2</td>
<td>21</td>
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<td>35</td>
</tr>
<tr>
<td></td>
<td>8</td>
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</tr>
<tr>
<td>4.</td>
<td>4</td>
<td>54</td>
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<td>9</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Solve. (Lesson 5–8)

6. \(8 \times 2 \times 0 = \)_____
7. \(3 \times 4 \times 1 = \)_____
8. \(2 \times 5 \times 2 = \)_____
9. \(2 \times \underline{______} \times 2 = 16\)

10. Sal wants to make oatmeal for himself and his brother. The directions say to add 2 cups of boiling water to the oatmeal for 1 serving. Both Sal and his brother want double servings. How many cups of boiling water will Sal need to measure?
Problem-Solving Practice

Algebra: Find a Rule

Find a rule. Then extend the rule to solve.

1. If there are 32 crayons in 4 boxes, how many crayons are in 3 boxes?

2. How many strawberries are there in the fifth box if there are 2 in the first, 8 in the second, and 14 in the third?

3. A farmer grows carrots. He has 5 plants growing in the first row, 7 in the second row, and 9 in the third row. How many does he have growing in the fourth row?

4. The amusement park sold ride tickets in packs of 5, 10, 15, 20 tickets. What would a pack of 10 tickets cost if 20 tickets cost $8?

5. Suppose you plant a 6-foot tree and it grows 3 feet each year. After the first year, your tree will be 9 feet tall. How tall will it be after the third year?
Divide. Use counters.

1. There are 24 cans of soda with 6 cans in each group. How many groups of cans of soda in all? ______

2. Jack has a bag with 10 marbles inside. He kept 2 and gave the rest to his 4 friends. If he gives each friend the same number of marbles, how many will each friend get? ______

Find each missing number.

3. 10 ÷ _____ = 5
4. 12 ÷ _____ = 3
5. 16 ÷ _____ = 4
6. 36 ÷ _____ = 6

Divide. Use repeated subtraction on a number line or paper and pencil.

7. 12 ÷ 2 = _____
8. 8 ÷ 4 = _____
9. 9 ÷ 3 = _____
10. 15 ÷ 5 = _____

Spiral Review

Write the rule for each table. Then, complete the table. (Lesson 5–9)

11. Rule: ____________

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>6</td>
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<tr>
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</table>

12. Rule: ____________

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
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</tr>
<tr>
<td></td>
<td>35</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>63</td>
</tr>
</tbody>
</table>
Use repeated subtraction to solve.

1. Perry puts 9 berries into 3 fruit cups. He puts the same number of berries in each cup. Use subtraction to show how many berries he put in each cup.

   How many berries did he put in each cup?
   ______ berries

2. Four people at the Pizza Palace left the waiter a tip. Each person left a tip of the same amount. The total tip was $8. Use subtraction to show how much each person left for a tip.

   How much did each person leave for a tip?
   ____________________________

3. On Monday, Helen’s math teacher gave the class 45 problems to finish by Friday. Helen will do the same number of problems each day. How many problems will she do on Friday?

   ______ problems

4. The school cafeteria can serve lunch to 4 students every 32 seconds. How many seconds does it take each student to get his or her lunch?

   ______ seconds

5. A box of tissue packs contains 72 total tissues. The tissues come in packs of 8 tissues each. Ally, Ann, and Missy share the tissue packs equally. How many packs of tissues does each girl get? Explain.

   ____________________________

   ____________________________

6. Four friends buy tickets to see a movie. They pay $24 in all for their tickets. If each friend also spends $2 on a drink, how much does each friend spend in all? Explain.

   ____________________________

   ____________________________
Relate Multiplication to Division

Draw an array for each number sentence. Then write a related division sentence.

1. \(5 \times 4 = 20\)  
2. \(4 \times 8 = 32\)  
3. \(5 \times 6 = 30\)  
4. \(6 \times 7 = 42\)  
5. \(8 \times 5 = 40\) 

Write four related multiplication and division sentences for each set of numbers.

6. \(5, 10, 50\)
7. \(6, 7, 42\)
8. \(3, 4, 12\)

Spiral Review

Divide. Use counters. (Lesson 6–1)

9. There are 22 boys who want to play baseball. There will be 2 teams. How many boys will play on each team? _____

ALGEBRA Find each missing number.

10. \(8 \div _____ = 2\)  
11. \(21 \div _____ = 3\)  
12. \(42 \div _____ = 7\)

Divide. Use repeated subtraction on a number line or paper and pencil.

13. \(10 \div 2 _____\)  
14. \(9 \div 3 _____\)

Grade 3  
91  
Chapter 6
Problem-Solving Practice
Relate Multiplication to Division

Use subtraction to solve.

1. A mini-van has 3 rows of seats with 9 seats in all. Draw an array of circles to show the number of seats in each row. How many seats in each row?
   _____ seats in each row

2. Two students have 10 pennies in all. They each have the same number of pennies. Draw an array of circles to show how many pennies each student has. How many does each have?
   Each has _____ pennies.

Use arrays of counters to help you solve.

3. A news reporter spent the last 24 months in 6 different countries. She stayed the same length of time in each country. How long did she stay in one country?
   _____ months

4. The news channel on TV allows 20 minutes to report the day’s top stories. Today’s top stories took 5 minutes each to report. How many top stories were reported today?
   _____ top stories

Solve. Use arrays if you need help.

5. Nina made 6 pairs of pants with 42 pockets in all. Each pair of pants has the same number of pockets. She added a button to one pocket on each pair of pants. How many pockets on each pair of pants do not have buttons?
   _____ pockets

6. The math teacher gives Harlen 24 counters. Harlen must make as many different arrays as he can with more than 1 row. How many different arrays can he make? [Remember: In an array, each row has the same number of counters.]
   _____ different arrays
Solve. Use the *choose an operation* strategy.

1. Alex is a dog that gets in trouble 3 times a day. At the end of a week, how many times does she get in trouble?

2. By the end of a week, Alex will bark 21 times. How many times does she bark each day?

3. Alex sometimes gets in trouble for leaving the yard. Last year, she left the yard 165 days in a row. How many days did she stay in the yard last year?

---

**Spiral Review**

Write four related multiplication and division sentences for each set of numbers. (Lesson 6–2)

4. 8, 9, 72

5. 3, 7, 21

6. 4, 5, 20

7. 7, 8, 56

8. 6, 7, 42
Divide.

1. \(8 \div 2 = \) 
2. \(6 \div 2 = \) 
3. \(10 \div 2 = \)
4. \(16 \div 2 = \)
5. \(20 \div 2 = \)
6. \(14 \div 2 = \)
7. \(12 \div 2 = \)
8. \(4 \div 2 = \)
9. \(18 \div 2 = \)

Divide. Use repeated subtraction on a number line.

10. \(2 \div 12 \)
11. \(2 \div 18 \)

Divide. Write a related multiplication fact.

12. \(16 \div 2 = \)
13. \(6 \div 2 = \)
14. \(20 \div 2 = \)
15. \(12 \div 2 = \)

Solve. Use the choose an operation strategy. (Lesson 6–3)

16. Liz has a fish tank with a total of 22 fish. She has an equal number of solid goldfish and spotted goldfish. How many does she have of each kind of fish?

17. The back of the van has 2 seats that can seat 6 people. The same number of people can sit on each seat. How many people can sit on each seat?
Problem-Solving Practice

Divide by 2

Solve.

1. Britt spent the same amount of money at 2 different stores. She spent $2 in all. How many groups of 2 are there in $2?

How many groups of 2 are there in $2?

How much did she spend at each store?

2. Tyrell gave 4 of his model cars to his friends Ted and Ameil. He gave the same number of cars to each friend. Write a division fact to show how many cars Tyrell gave to Ted.

How many cars did he give to Ted?

_____ cars

3. Casey bought a box of 18 granola bars. She will keep some and give the rest to her brother. If Casey and her brother now have the same number of bars, how many did Casey give to him?

How many bars did Casey give to her brother?

_____ bars

4. Mother washes all 14 of her children’s mittens. Each child has one pair of mittens. How many children are there?

How many children are there?

_____ children

5. Jodie is helping her mom in the backyard. She needs to move 17 big stones to the front. The wheelbarrow can hold 2 stones. Can she move all of the stones to the front yard in 8 trips? Explain.

Can she move all of the stones to the front yard in 8 trips?

6. Ian is cleaning his room. He picked up 16 red pegs and 12 black ones. He put the same number of pegs into each of two boxes. How many pegs did he put in each box?

How many pegs did he put in each box?

_____ pegs in each box
Homework Practice

Divide by 5

Divide.

1. \(30 \div 5 = \) _____  
2. \(15 \div 5 = \) _____  
3. \(40 \div 5 = \) _____  
4. \(25 \div 5 = \) _____  
5. \(10 \div 5 = \) _____  
6. \(50 \div 5 = \) _____  
7. \(35 \div 5 = \) _____  
8. \(5 \div 5 = \) _____  
9. \(45 \div 5 = \) _____

ALGEBRA Complete each table.

10. [Table]

<table>
<thead>
<tr>
<th>Rule:</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
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<tr>
<td>6</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>45</td>
<td></td>
</tr>
</tbody>
</table>

11. [Table]

<table>
<thead>
<tr>
<th>Rule:</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Solve.

12. Allie wants to make iced tea. The directions say adding 10 teaspoons of tea mix to 5 cups of water will serve 5 people. She plans to use 1 cup of water. How many teaspoons of tea mix should she use? _____

Spiral Review

Divide. (Lesson 6–4)

13. \(30 \div 2 \) _____  
14. \(18 \div 2 \) _____  
15. \(40 \div 2 \) _____  
16. \(26 \div 2 \) _____  
17. \(10 \div 2 \) _____  
18. \(14 \div 2 \) _____
Problem-Solving Practice

Divide by 5

Solve.

1. Antonio scored 15 points on 5 math questions on a test. Each question was worth the same number of points. How many points did he score for each question?

   _____ points

2. School lunch costs $5. Marcus has $10. For how many days can he buy lunch?

   _____ days

3. Erica works at a pet store. It takes her five minutes to put food and water in each hamster cage. How many cages can she finish in 35 minutes?

   _____ cages

4. Joel is in charge of feeding the birds in a pet store. Each bird cage gets 5 hanging seed strings. Joel used 45 seed strings to feed all of the birds. How many cages of birds are in the store?

   _____ cages

Solve. Show your work.

5. Every Saturday, Mr. and Mrs. Thompson and their 3 children each have a hamburger for lunch. There are 40 hamburger patties in their freezer. In how many weeks will they finish the last of the patties?

   ____________________________

   ____________________________

6. Today 25 girls and 20 boys rode their bikes to school. Each bike rack at school holds 5 bikes. How many bike racks were filled?

   ____________________________

   ____________________________
**Homework Practice**

**Problem-Solving Investigation**

**Solve. Use any strategy to solve below.**

- Act it out
- Draw a picture
- Look for a pattern

1. Jake went back-to-school shopping. He bought 10 items. If 2 of the items were the same, how many different items did he buy?

2. The total cost of the 2 notebooks that Jake bought was $4. If the notebooks cost the same amount, how much money did each notebook cost?

3. Jake looked at the notebooks on sale. The first group of notebooks had 1 section, the second group had 3 sections, and the third group had 5 sections. If this pattern continues, how many sections will the fourth group have?


**Spiral Review**

**Divide. (Lesson 6–5)**

5. \(20 \div 5 = \) 
6. \(15 \div 5 = \) 
7. \(45 \div 5 = \)

8. \(25 \div 5 = \) 
9. \(55 \div 5 = \) 
10. \(10 \div 5 = \)

11. \(35 \div 5 = \) 
12. \(30 \div 5 = \) 
13. \(40 \div 5 = \)
Homework Practice

Divide by 10

Divide.

1. \(10 \div 10 = \) 
2. \(60 \div 10 = \) 
3. \(80 \div 10 = \) 

4. \(160 \div 10 = \) 
5. \(200 \div 10 = \) 
6. \(140 \div 10 = \) 

7. \(120 \div 10 = \) 
8. \(400 \div 10 = \) 
9. \(150 \div 10 = \) 

10. \(10 \div 80 = \) 
11. \(10 \div 120 = \) 

12. \(10 \div 100 = \) 
13. \(10 \div 500 = \) 

Spiral Review

Choose the best strategy to solve. (Lesson 6–6)

14. Sandy bought 16 new pencils. She kept 2 for herself and gave the rest to 7 of her friends. How many pencils did she give to each friend?

15. A new pool opened. The first day 10 children came to swim. The second day 20 children came. After the pool was open a week, 70 children were coming each day. How many children came on the fifth day the pool was open?
Problem-Solving Practice

Divide by 10

Solve.

1. There are 30 desks with 10 desks in each row. How many rows of desks are there?

2. Carl owns 20 video games. He stores them in boxes. There are 10 video games in each box. How many boxes are there?

3. Mary kept a record for 90 days to see how many times she ate fish for dinner. She ate fish every 10 days. How many times did she have fish for dinner in the last 90 days?

4. Annie bought a bag of 80 mini-carrots. She eats 5 carrots each day for lunch and eats another 5 carrots as a snack at night. In how many days will the bag of carrots be empty?

5. Morgan has 90 cents in her pocket and another 80 cents in her drawer. All of the change is in dimes. How many dimes does Morgan have in all?

6. Ricky spent $90 at the supermarket. He bought $30 worth of fruit. The rest of the money was spent on steaks. If he bought 10 steaks and each cost the same amount, what was the price of each steak?

5. Kayla has a box of 80 family photos and a photo album with 10 pages. How many photos must she fit onto each page of the album to keep all of the family photos in one album?

8. Bill has a collection of 60 books that he wants to donate to the library. He wants to put an equal number of books in each box. Write an equation to show how he could divide the books into equal groups.
Homework Practice

Division Properties

1. $1 \div 1 = \underline{1}$
2. $0 \div 6 = \underline{0}$
3. $8 \div 1 = \underline{8}$
4. $5 \div 1 = \underline{5}$
5. $4 \div 4 = \underline{1}$
6. $8 \div 8 = \underline{1}$
7. $1\sqrt{5} \underline{5}$
8. $2\sqrt{0} \underline{0}$
9. $9\sqrt{9} \underline{9}$

Solve.

10. There are 15 girls who want to get pink roses that cost $1 each. How much is needed for each girl to have a rose?

11. Mrs. Perkins needed 35 sheets of red paper, so she could give each student 1 sheet. When she looked on the shelf, there were no sheets of red left. How many sheets of red paper can she hand out?

Spiral Review

Divide. (Lesson 6–7)

12. $100 \div 10 = \underline{10}$
13. $600 \div 10 = \underline{60}$
14. $180 \div 10 = \underline{18}$
15. $150 \div 10 = \underline{15}$
16. $220 \div 10 = \underline{22}$
17. $140 \div 10 = \underline{14}$

ALGEBRA Solve. Find the missing number.

18. $50 \div 10 = \underline{5}$
19. $\underline{3} \div 10 = 3$
20. $150 \div \underline{10} = 15$
21. $650 \div \underline{10} = 65$
Problem-Solving Practice

Division Properties

Solve.

1. Kelly divided 0 shirts into 4 equal groups. How many shirts are in each group?
   ______ shirts

2. A delivery man carries 10 new chairs into 5 rooms. He puts the same number of chairs in each room. How many chairs are in each room?
   ______ chair(s)

3. Each desk in an office has 1 chair. There are 8 chairs in all in the office. Write a number sentence to show how many desks are in the office.
   __________________________

4. Mandy arranged pictures of her family in 3 equal rows on her wall. Mandy has 12 pictures of her family. How many pictures are in each row?
   __________________________

5. A florist has 8 daisies to arrange in 8 vases. She puts the same number in each vase. How many flowers in all are in each vase?
   __________________________

6. A gardener plants 18 tulips and 24 daffodils in 6 equal rows. How many flowers will be in each row?
   __________________________
Divide by 3

Divide.

1. \(15 \div 3 = \) _____
2. \(18 \div 3 = \) _____
3. \(27 \div 3 = \) _____
4. \(6 \div 3 = \) _____
5. \(9 \div 3 = \) _____
6. \(12 \div 3 = \) _____
7. \(30 \div 3 = \) _____
8. \(21 \div 3 = \) _____
9. \(3 \div 3 = \) _____
10. \(0 \div 3 = \) _____

ALGEBRA Write >, <, or =.

11. \(\frac{21}{7} \) ___ \(6 \times 3\)
12. \(25 \times 1 \) ___ \(\frac{27}{3}\)

ALGEBRA Copy and complete the table.

13. | Rule: Divide by 3. | Input | Output |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>33</td>
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<td>---</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Divide.

14. \(8 \div 8 = \) _____
15. \(7 \div 1 = \) _____
16. \(8 \div 1 = \) _____
17. \(5 \div 1 = \) _____
18. \(9 \div 1 = \) _____
19. \(5 \div 5 = \) _____
20. \(7 \div 7 = \) _____
21. \(9 \div 9 = \) _____
### Solve.

1. Walter has 9 pencils. Every week he uses 3 of them. In how many weeks will Walter use up all of his pencils?
   
   _____ weeks

2. Elyse served herself and 2 friends 24 ounces of juice. She filled each glass with the same amount of juice. How many ounces of juice did she pour in each glass?
   
   _____ ounces

3. The gym teacher has 18 basketballs divided equally among 3 bags. For practice she takes 2 basketballs from each bag. How many basketballs are left in one of the bags?
   
   _______________________

4. Donna bought 3 new pairs of jeans for $30. What was the price of each pair of jeans?
   
   _______________________

5. Alana mailed 6 letters in 3 different mailboxes. She mailed the same number of letters in each mailbox. How many letters did she mail in each mailbox?
   
   _____ letters

6. The 27 students in Mrs. Penny’s class are in line to leave school. Mrs. Penny lets her students leave in groups of 3 at a time. How many groups of students will leave?
   
   _____ groups

7. All three of Tasha’s dogs eat the same amount of food. She feeds them a total of 12 pounds of dry food and 12 pounds of canned food every week. How many pounds of food does each dog eat per week?
   
   _______________________

---

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Divide.

1. $16 \div 4$  
2. $32 \div 4$  
3. $28 \div 4$  
4. $8 \div 4$  
5. $36 \div 4$  
6. $12 \div 4$  
7. $40 \div 4$  
8. $14 \div 2$

ALGEBRA  Find each missing number.

9. $27 \div \_ = 9$  
10. $\_ \div 3 = 10$  
11. $20 \div \_ = 5$  
12. $24 \div \_ = 4$

ALGEBRA  Copy and complete the table.

<table>
<thead>
<tr>
<th>Input</th>
<th>8</th>
<th>16</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>3</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

**Spiral Review**

Divide. (Lesson 7–1)

14. $27 \div 3$  
15. $30 \div 3$  
16. $6 \div 3$  
17. $12 \div 3$  
18. $9 \div 3$  
19. $15 \div 3$  
20. $24 \div 8$  
21. $18 \div 6$  
22. $21 \div 3$  
23. $33 \div 3$
Problem-Solving Practice

Divide by 4

Solve.

1. Each minute, 4 gallons of water flow into the tub. There are now 8 gallons of water in the tub. How many minutes did that take?
   _____ minutes

2. The Finos have a carton of 12 eggs. If the family eats four eggs a day, how long will they have eggs to eat?
   _____ days

3. Eric pumps the front tire of his bike to 32 pounds. Each push of the pump puts 4 pounds of air into the tire. How many times must Eric push the pump to fill the tire?
   _____ times

4. A boat rental shop rents paddleboats that can hold up to 4 riders. The shop has enough paddle boats for up to 28 people. How many paddleboats does the shop have?
   _____ paddleboats

5. Ollie lent $24 in equal amounts to 4 of his friends. Melissa lent $18 in equal amounts to 3 of her friends. Who lent each friend more money? Explain.

   ___________________________________
   ___________________________________
   ___________________________________
   ___________________________________

6. A grocery store shelf can hold 4 large boxes of laundry detergent. The store clerk put 25 boxes of laundry on the shelves. What is the least number of shelves needed for the display? Explain.

   ___________________________________
   ___________________________________
   ___________________________________
   ___________________________________
Solve.

1. Mr. Frank is planning a parade. First, 36 musicians will march and play. Second, 32 soldiers will march in uniform; third, 28 horses will join. Fourth, will be clowns. How many clowns will walk in the parade?

2. Every time Mr. Frank buys 4 pots of flowers for the float, the flower shop will give him 1 pot free. After 4 weeks, he had 50 pots of flowers. How many pots did he get free?

3. Mr. Frank is collecting money to rent the parade floats that will cost $40. He has $24 so far. How long will it take to have enough money if he collect $4 a week?

4. There are a total of 30 floats for the parade. The parade will last about 1 hour. Mr. Frank wants the floats to travel at an equal pace throughout the parade. How many floats should travel through the parade in 30 minutes?

5. There are 28 horses in the parade. They are walking in rows, with 4 horses in each row. How many rows of horses are in the parade?

6. For every float, Mr. Frank wants 6 people. If there are 20 floats, how many people will Mr. Frank need?

Spiral Review

Divide. (Lesson 7–2)

7. 24 ÷ 4 ______

8. 4 ÷ 4 ______

9. 28 ÷ 4 ______

10. 0 ÷ 4 ______

11. 36 ÷ 4 ______

12. 16 ÷ 4 ______
Homework Practice

Divide by 6 and 7

Divide.

1. $12 \div 6$ 
2. $18 \div 6$
3. $28 \div 7$
4. $36 \div 6$
5. $49 \div 7$
6. $14 \div 7$
7. $60 \div 6$
8. $21 \div 7$
9. $42 \div 6$
10. $63 \div 9$

ALGEBRA Complete the table.


<table>
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<th>Input</th>
<th>Output</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2</td>
<td>10</td>
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<table>
<thead>
<tr>
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<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Solve. Use the make a table strategy. (Lesson 7–3)

13. Rides at an amusement park cost $4 per person or $24 for every 6 people. If a group of 21 people go to the amusement park, how much will they pay?

14. Renee is saving her money to buy a T-shirt that costs $16. She saves $3 the first week, $5 the second week, $2 the third week, and $3 the fourth week. How much more money will she need to save?
Solve.

1. Len will put 18 goldfish into 6 fishbowls. Each bowl will have the same number of fish. How many goldfish will go in each bowl?
   ______ goldfish

2. There are 14 customers standing in 7 checkout lines. Each line has the same number of customers. How many customers are in each line?
   ______ customers

3. There are 54 cards in a card game. All of the cards are dealt out to the players. Each player gets 6 cards. How many players are in the game?
   ______ players

4. The winning team scored 49 points. There were 7 players on the team. If each player scored the same number of points, how many points did each player score?
   ______ points

5. Mother is making 6 goody bags for Leroy’s party. She will put 24 apple fruit rolls and 24 cherry fruit rolls into the bags. If she puts the same number in each bag, how many fruit rolls will be in each goody bag?
   ______ fruit rolls

6. There are 7 cupcakes for the party. Each cupcake has 1 candle for each year of the birthday boy’s age. There is also an extra candle on each cupcake for good luck. If 49 candles were used on the cupcakes, how old is the birthday boy? Explain.
Homework Practice

7–5

Divide by 8 and 9

Divide.

1. $16 \div 8 = \underline{2}$
2. $32 \div 8 = \underline{4}$
3. $81 \div 9 = \underline{9}$
4. $8 \div 8 = \underline{1}$
5. $36 \div 9 = \underline{4}$
6. $45 \div 9 = \underline{5}$
7. $90 \div 9 = \underline{10}$
8. $72 \div 8 = \underline{9}$
9. $56 \div 8 = \underline{7}$
10. $63 \div 9 = \underline{7}$

ALGEBRA Find the missing factor or quotient.

11. $27 \div \underline{9} = 3$
12. $\underline{60} \div 9 = 10$
   $3 \times \underline{9} = 27$
   $10 \times \underline{9} = 90$
13. $54 \div \underline{6} = 9$
14. $64 \div \underline{8} = 8$
   $6 \times \underline{9} = 54$
   $8 \times \underline{8} = 64$

Spiral Review

Divide. (Lesson 7–4)

15. $36 \div 6 = \underline{6}$
16. $18 \div 6 = \underline{3}$
17. $63 \div 7 = \underline{9}$
18. $56 \div 7 = \underline{8}$
19. $49 \div 7 = \underline{7}$
20. $35 \div 7 = \underline{5}$
21. $70 \div 7 = \underline{10}$
22. $24 \div 6 = \underline{4}$
23. $42 \div 6 = \underline{7}$
24. $54 \div 6 = \underline{9}$

25. Look back over the page and circle all the numbers that are factors of 18.
7–5

Problem-Solving Practice

Divide by 8 and 9

Solve.

1. A group of 8 children go to the fair. They share 16 balloons equally. How many balloons does each child get?
   ______ balloons

2. A group of 9 people go on 27 rides at the fair. Each one goes on the same number of rides. How many rides does each person go on?
   ______ rides

3. Marta bought 48 pieces of silverware. She puts them in a tray with 8 sections. Each section has the same number of pieces. How many pieces of silverware are in each section of the tray?
   ______ pieces

4. Mina sets the dining room table. Every night she puts out 45 dishes for 9 places at the table. How many dishes are set at each place?
   ______ pieces

5. Ty and Shaheed each have 36 rocks. They put their rocks together in a box. The box has 9 sections. If they put the same number of rocks in each section, how many rocks are in each?
   Explain.
   ____________________________________________
   ____________________________________________
   ____________________________________________

6. A mural in the aquarium shows octopuses and starfish. Each starfish has 5 arms. Each octopus has 8 legs. There are 20 starfish arms in all. The combined number of starfish arms and octopus legs is 60. How many octopuses are in the mural? Explain.
   ____________________________________________
   ____________________________________________
   ____________________________________________

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Homework Practice

Find Unit Cost

Find each unit cost.

1. 3 markers for $9
2. 5 books for $40
3. 1 sandwich for $3

Find the unit cost to determine the better buy.

4. 5 posters for $25
   7 posters for $28
5. 9 pens for $18
   5 pens for $15

Solve.

6. Sally has $10. Ice cream treats are 5 for $5. She buys
   3 ice cream treats. How much change will she receive?

Spiral Review

Divide. (Lesson 7–5)

7. 18 ÷ 9
8. 54 ÷ 9
9. 63 ÷ 9
10. 36 ÷ 4
11. 27 ÷ 9
12. 45 ÷ 9
13. 99 ÷ 9
14. 72 ÷ 8
15. 81 ÷ 9
16. 40 ÷ 5
17. 56 ÷ 7
18. 64 ÷ 8
Problem-Solving Practice

Find Unit Cost

Solve by finding each unit cost.

1. Dave is going camping with his family. Sleeping bags are on sale for 3 for $60. He has to buy 3 to get the sale price. One sleeping bag costs $25. Dave needs 5 sleeping bags. Would Dave save money if he got 6 sleeping bags?

2. Dave has to buy 1 flashlight for each of the 5 members of his family. He spent $50. How much did each flashlight cost?

3. Dave needs to find the best buy on bottled water. He can get a case of 48 bottles for $24, or he can get 5 cases of 10 bottles for $3 a case. Which is the better buy?

4. Dave bought 6 cans of soup for $3. How much would it cost for 1 can?

5. The campground charges $210 a week. How much does 1 day cost?

6. Dave’s family spent $27 on gasoline to drive to the campground. They used 9 gallons of gasoline. How much did gas cost per gallon?
Homework Practice

Problem-Solving Investigation

Solve. Use any strategy.


2. Cindy decided to grow her own roses. One rose bush cost $20 and produced 10 roses. Since Cindy paid $12 for 12 roses the year before, did Cindy save money this year by growing her own roses? Explain. ______

3. ALGEBRA What is the next number in the pattern?
   72, 75, 78, 81, ______

4. Sue and her brother Bill were given a case of 30 juice drinks. Sue drinks 2 a day and Bill drinks 1 a day. How long will the case of drinks last? ______

Spiral Review

Find each unit cost. (Lesson 7–6)

5. 4 balls for $12 ______
6. 5 notebooks for $5 ______
7. 2 paint sets for $6 ______

Find the unit cost to determine the better buy.

8. 10 ice pops for $10
   5 ice pops for $10 ____________________________
9. 6 books for $18
   3 books for $12 ____________________________
Write an expression and create an equation for each situation.

1. Meg has 10 books. She was given 2 more for her birthday. How many books does Meg have? ____________

2. There are 12 dolls and 4 girls. If everyone has equal amounts, how many dolls can each girl have? ____________

Choose one of the symbols $+$, $-$, $\times$, or $\div$ to make the equation true.

3. $15 \bigcirc 5 = 2 \times 5$  
4. $50 - 8 = 6 \bigcirc 7$

5. $9 \bigcirc 8 = 79 - 7$  
6. $24 \div 6 = 32 \bigcirc 8$

Find a number that makes the equation true.

7. $7 \times 3 = _____ - 2$  
8. $7 \times 9 = 30 + _____$

9. $8 \times 7 = _____ - 4$  
10. $7 \times 6 = 37 + _____$

Solve. Use any strategy. (Lesson 7–7)

11. Jerry spent $2 on a drink, $3 on a pretzel, and $5 on a ticket to see the movie. He got $10 in change. How much money did he start with?

12. Lindy’s class has 3 more students than Pablo’s class. Pablo’s class last year had 6 more students than it does this year. This year, Pablo’s class has 20 students. How many students are in Lindy’s class this year?
Write an expression and create an equation for each situation.

1. The Lopez family of 4 went camping 5 years in a row. Every year they brought 2 different guests. How many guests did they bring all together?

2. The Lopez family has 3 tents, and each tent has room for 3 people. How many people do they have room for all together?

3. There are 20 campers in each section of the campground, with an equal number in each section. There are 4 sections. How many campers are in each section?

4. Over the 5 years that the Lopez family went camping, they made 8 new friends each year. How many new friends did they make altogether?

5. Thirty-two of the Lopez family’s new friends came from 4 different states, with the same number from each state. How many came from each of the states?
Write each phrase as an expression. Then solve.

1. 56 students divided equally among 7 tables.
2. the total of 7 classes of 10 students
3. 65 less than 75
4. 25 more than 50
5. difference between 34 and 30
6. run 2 times a day for 30 minutes each time
7. the product of 9 and 8
8. 4 boxes have 6 books

Write two word phrases for each expression.

9. 25 ÷ 5
10. 7 × 8

Choose one of the symbols +, −, ×, or ÷ to make the equation true. (Lesson 7–8)

11. 65 ○ 5 = 10 × 6
12. 64 ÷ 8 = 8 ○ 1

Find a number to make the equation true.

13. 6 × 4 = _____ – 2
14. 9 × 9 = 50 + _____
15. 8 × 6 = _____ – 9
16. 7 × 9 = 50 + _____
Write an expression for each situation. Then solve.

1. Eva has $10 more than Trina. Trina has saved $2 each day for a week. How much money does Eva have?

2. Berto is 10 years older than Suna. Suna is 15 years old. How old is Berto?

3. Molly will be on vacation at the beach with Ana for 8 days. Tino will join them for half of the time that they are at the beach. How long will Tino stay at the beach?

4. At 4:00 P.M. in the afternoon, there were only 4 bikes left in the bike rack at school. At noon, there were 10 times that many bikes in the rack. How many bikes were in the rack at noon?

5. Each package of chicken soup mix serves 6 people. Ruby wants to serve 36 people chicken soup. How many packages of soup should she buy?

6. Mrs. Perez bought 27 balloons. If 9 children come to her son’s birthday party and she divides the balloons equally, how many balloons will each child bring home?
Homework Practice
Length to the Nearest Half Inch

Use an inch ruler. Draw a line for each length.

1. 3 and $\frac{1}{2}$ inches
2. $\frac{1}{2}$ inch
3. 5 inches
4. Kevin’s ruler is broken and starts at $1\frac{3}{4}$ inches. If he wants to draw a line that is 2 inches long, at what point will he stop his pencil? ____

Using what you know about measurement, answer the question.

5. Which is the best choice for measuring, using paper clips or using a ruler? Explain.

Spiral Review

Use knowledge of expressions to answer the question.

6. You know that Melinda has $5. Janet has $10 more than Melinda. What does more mean? How much money does Janet have?

Write an expression.

7. Betty volunteered at the pledge drive for 13 hours. Her brother volunteered for half as long.
Solve.

1. Max drew a line that was 3 counting cubes long. Draw the line that Max drew.

2. How many paper clip units long is the carrot?

3. Harry uses connecting cubes to measure a comb. It measures 6 connecting cubes long. Will it be more or less than 6 inches?

4. Frank measures the width of his desk in paper clip units. His desk measures 28 paper clip units. How can he use this information to find the width of his desk in inches?

5. Richard and Tanya measured the length of a long piece of chalk. Richard said the chalk was 8 units long, and Tanya said it was 3 units long. Explain why both measurements might be correct.

6. Delon measures the length of his shoe in paper clips and in inches. His shoe measured 8 inches, and 5 paper clips. Are the paper clips longer or shorter than an inch?
Choose the most appropriate unit to measure each length. Choose from inch, foot, yard, or mile.

1. width of a pizza box _________

2. length of a football field _________

3. height of a telephone pole _________

Choose the best estimate.

4. the length of a table 10 feet or 10 miles ____________

5. the height of a book 12 inches or 12 miles ____________

6. New York to Chicago approximately 1,000 miles or approximately 1,000 feet ____________

Convert.

7. 36 inches = _____ feet

8. 3 feet = _____ yard(s)

9. 9 feet = _____ inches

10. 3 yards = _____ feet

Spiral Review

Use an inch ruler to answer the following questions. (Lesson 8–1)

11. Is the width of a crayon closer to an inch or a half inch? half inch

Draw a line for each length.

12. 2 inches

13. 1 1/2 inches
Solve.

1. How many inches long is the pencil shown in the picture?

2. What measuring tool would you use to measure the length of your foot?

3. Kira went on a hiking trip. She hiked for 4 hours in one day. What unit of measurement would you use to tell the distance she walked in 4 hours?

4. Hector wants to measure the length of his dog’s tail. What tool is he most likely to use? What unit of measure?

5. Carrie wants to make a paper cover for her math book. Explain how you would measure a book to find out how much paper to use.

6. There will be a new floor in the gym. The principal had to find the length and width of the gym. The measurements were written on the order form, but the units of measure were accidentally erased. The order form said the gym floor is 15_____ by 20 _____. What units of measure were most likely erased?
Homework Practice

Problem-Solving Strategy

Solve. Use the work backward strategy.

1. Mr. Lawrence has 20 students now. At the beginning of the week he had double the amount plus 1. How many students did he have at the beginning of the week?

2. Janet ate lunch for one hour. Then, she cleaned up her room for 2 hours before leaving to visit a friend at 4 P.M. What time did she start her lunch?

3. Juan walked a total of 15 miles this week. He walked the same distance on Monday as he did on Tuesday. He walked 7 miles on Wednesday and 1 mile on both Thursday and Friday. How many miles did he walk on Tuesday?

Spiral Review

Choose the best unit of measurement. (Lesson 8–2)

4. To measure the length across a gym. ____________

5. To measure the height of a drinking glass. ____________

Convert.

6. 4 feet = _____ inches

7. 1 yard = _____ feet

8. 36 inches = _____ feet

9. 6 feet = _____ yards
Choose customary units of capacity.

1. What unit would you use to measure the capacity of a glass of milk?

2. What would you use to measure a jug of orange juice?

Convert.

3. 5 pints = _____ cups
4. 4 gallons = _____ quarts
5. 2 quarts = _____ cups
6. 3 gallons = _____ quarts
7. 1 gallon = _____ cups
8. 2 pints = _____ cups

Spiral Review

Solve. Use the work backward strategy. (Lesson 8–3)

9. Sarah went to a show. The performer put a scarf into a hat. When he pulled it out it was twice as long. When he did it again the scarf was 5 inches shorter and measured a total of 17 inches. How long was the scarf before the trick began?

10. After a pattern repeats itself 5 times, there are 15 circles, 5 squares, and 10 hearts. How many of each shape are there in the original pattern? Can we tell what the pattern is?
8–4

Problem-Solving Practice

Customary Units of Capacity

Solve.

1. Alan has a glass of juice with lunch. Did he drink about 2 cups or 2 gallons of juice?

2. A container of milk holds 4 quarts. Is that more, less, or the same as 1 gallon?

3. Krista’s teacher asked her how much water she thinks a large bathtub can hold. Krista said, “About 48.” Krista did not say the unit of measure. What unit should she have said?

4. A punch bowl at a party has more than 1 gallon of juice in it. Guests take juice from the bowl using cups. What is the fewest number of cups of juice in the punch bowl?

5. Angie wants to fill a gallon fish bowl with water. She will fill a drinking glass with tap water, then pour it into the bowl. About how many times will she probably need to fill the glass in order to fill the fish bowl? Explain.

6. Mrs. Polk made a gallon of soup for her children for lunch. The 3 children ate 2 small bowls of soup each. A bowl is a little more than 1 cup. About how many quarts of soup do you think is left? Explain.
Use any strategy to solve. Tell what strategy you used.

1. The class has 25 students. Each student has 4 pencils at their desks. How many pencils are there altogether?

2. What numbers are missing in the pattern below?
   2, 4, __, 16, ___, 64, ___

3. Amy ran 8 blocks to get to her friend’s house. The way home was half as long. How many blocks was the total trip?

4. Marcus had a birthday party. He invited 6 friends from school, 5 from his soccer team, and 12 from other places. How many were invited in all?

Spiral Review

Answer these questions about customary units of capacity. (Lesson 8–4)

5. Name three items in a grocery store that are measured by capacity.

6. Kenny has 16 cups of milk. How many gallons does he have?

Convert.

7. 16 quarts = _____ gallons

8. 1 pint = _____ cups
Homework Practice

Customary Units of Weight

Predict whether the following items weigh less than one pound, about one pound, or more than one pound.

1. a bike ___________
2. a pencil ___________
3. a soccer ball ___________

Convert.

4. How many ounces are in 4 pounds? ___________
5. How many pounds are 32 ounces? ___________

Choose the better estimate.

6. An empty plastic jug 4 oz or 4 lb ___________
7. A pair of socks 2 oz or 1 pound ___________

Solve.

8. What is the total weight of a bag of potatoes that weighs 5 pounds and a box of rice that weighs 32 ounces?

9. One bag of oranges weighs 3 pounds and 4 ounces. A bag of apples weighs 64 ounces. Which one is heavier?

Spiral Review

Use any strategy to solve. (Lesson 8–5)

10. How many quart jugs of water will it take to fill a gallon jug?

Problem-Solving Practice

Customary Units of Weight

Solve.

1. Jake bought a bag of apples. Does it weigh about 3 pounds or 3 ounces?

2. A loaf of bread weighs about 1 pound. About how many ounces does it weigh?

3. Peggy told her mom that the new puppy weighs, “about 3.” She didn’t give the unit. What unit of weight should she have said after the number 3?

4. A customer weighs an orange on the scale in the fruit store. The orange weighs 5 ounces. The customer does not want to buy more than 1 pound of oranges. What is the greatest number of oranges the customer can buy? Explain.

5. Bart is putting groceries in a paper bag. He bought a loaf of bread, a cupcake, a bag of 10 apples, a bag of flour, and a bag of chips. He puts 3 items in one bag. Now the bag weighs about 2 pounds. Which 3 items did he probably put in the bag?

6. A bag of white potatoes weighs 2 pounds. A bag of sweet potatoes weighs 16 ounces. Tell how you could rearrange the potatoes so that you have two bags of potatoes that weigh the same.
Convert Units of Time

Convert.

1. 4 hours = _____ minutes
2. 360 minutes = _____ hours
3. \( \frac{1}{2} \) hour = _____ minutes
4. 3 quarter hours = _____ minutes
5. 180 minutes = _____ hours
6. 12 hours = _____ minutes

Solve.

7. Janet plans to meet her friend to see a movie at 6:45. It will take her a quarter of an hour to get ready to leave her house and 3 quarters of an hour to get to the theatre. What time must Janet start getting ready in order to be on time to meet her friend?

8. Juan wants to have dinner ready by 6:30. It takes 30 minutes for the enchilada casserole to be ready. He also wants to serve chicken wings, which will take 1 hour 15 minutes. What times must he put the chicken wings and the casserole in the oven in order to have all the food ready on time?

Spiral Review

Use customary units of weight to solve the problems. (Lesson 8–6)

9. How many ounces are in a pound?

10. If 1 soccer ball weighs about one pound and 1 golf ball weighs about 1 ounce, how many golf balls = 1 soccer ball?

11. How many ounces are in 1 pound 7 ounces?
Problem-Solving Practice  
Convert Units of Time

Solve.

1. James spent one hour on his math homework and 15 minutes on spelling. For how many minutes in all did James do homework?  
________________________ minutes

2. The basketball game lasted for 2 hours. How many minutes did the game last?  
________________________ minutes

3. Rolanda visited her grandmother. She stayed for an hour and ten minutes. How many minutes in all did the visit last?  
________________________ minutes

4. It took a painter an hour to paint the living room and 45 minutes to paint the kitchen. How much longer did it take to paint the living room than the kitchen? Tell the time in minutes and in hours.  
______ minutes ______ hour

5. Tom works for 3 hours every day after school. Keesha works for 210 minutes after school. Who works longer?  
________________________

How much longer? Tell the time in minutes and in hours.  
_____ minutes or ______ hour

6. Jesse swam the race in 124 seconds. Her teammate Carrie swam the race in 2 minutes and 10 seconds. Who won the race?  
________________________

By how many seconds?  
by ______ seconds
1. List 4 things you may measure in millimeters:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Choose the most appropriate unit to measure each length. Write millimeter, centimeter, meter, or kilometer.

2. width of a pencil ______ 5. height of a lamp ______

3. thickness of a banana peel ______ 6. distance to school ______

4. thickness of a pillow ______ 7. length of a soccer field ______

Choose the best estimate.

8. CD case ______ 9. computer mouse ______ 10. TV monitor ______

12 mm or 12 cm 13 mm or 13 cm 70 cm or 70 m

Spiral Review

Convert the units.

11. 3 hours = _____ minutes

12. _____ minutes = 4 quarter hours

13. _____ hours = 120 minutes

14. _____ minutes = 1 hour and half

15. _____ minutes = 1 quarter hour

16. 4 hours = _____ minutes
Problem-Solving Practice

Metric Units of Length

Solve.

1. Which is about 1 centimeter long: a fingernail or a pencil?

2. Which metric unit would you use to measure the distance between the front of the classroom and the back of the classroom?

3. A tomato plant is a little less than 1 yard in height. How can you describe this length in metric units?

4. Estimate the length of the crayon in centimeters.
   
   about _____ centimeters
   
   Now use a centimeter ruler to measure the length of the crayon to the nearest centimeter.
   
   _____ centimeters

5. Gail and Eric estimated the length of a screwdriver. Eric estimated about 11 cm. Gail said about 10 cm. They used a ruler to measure it, and found it was exactly 10.8 cm. Who had a better estimate? Why?

6. Estimate your height to the nearest meter.

   About _____ meters
   
   Now use a metric ruler to check your estimate. What is your height?
   
   _____ meters
   
   Was your estimate close? _____
   
   Explain.
Solve. Use the **guess and check** strategy.

1. Dolores bought some new pillows for her living room. She bought twice as many green pillows as blue pillows, and one less red pillow than green pillows. She bought 9 pillows altogether. How many pillows of each color did she buy?

2. Pam and Casey swim every day. Pam swims twice as far as Casey, but they always finish at the same time. If they both begin at 8 A.M., and Casey swims 500 meters, how many meters does Pam swim?

3. Arthur reads every day. On weekdays he reads at least 30 minutes a day. On the weekends, he reads twice as long. About how long does he read each week?

4. Cecilia was burning a new CD for a friend. The CD could record up to 60 minutes. How many 3- or 4- minute songs could Cecilia burn on to the CD?

**Spiral Review**

Write the number that makes each sentence true. *(Lesson 9–1)*

5. \(100 \text{ cm} = \) ____ \(\text{ m}\)

6. \(100 \text{ mm} = \) ____ \(\text{ cm}\)

7. \(5 \text{ m} = \) ____ \(\text{ cm}\)

8. \(1,000 \text{ cm} = \) ____ \(\text{ m}\)

9. \(3 \text{ cm} = \) ____ \(\text{ mm}\)

10. \(30 \text{ cm} = \) ____ \(\text{ dm}\)

11. ____ \(\text{ m} = 400 \text{ cm}\)

12. ____ \(\text{ mm} = 20 \text{ cm}\)
Homework Practice

Metric Units of Capacity

Choose the most appropriate unit to measure each capacity. Write milliliter or liter.

1. bottle of soda ____
2. water in a pool __...
3. dressing on salad ____
4. cream in coffee ____
5. hot chocolate in a mug ____
6. water in a birdbath ____

Write the number that makes each sentence true.

7. _____ mL = 4 L
8. _____ L = 3,000 mL
9. _____ mL = 8 L
10. _____ mL = 15 L
11. 11 L = _____ mL
12. 27 L = _____ mL

13. Hugo made some cupcakes. He used 10 mL of icing for each cupcake. How many mL will he use if he ices 24 cupcakes?

14. Lina is making soup for her family. If she makes 3 L of soup and needs to fill 6 bowls that hold 400 mL, will she have enough soup?

Spiral Review

Solve. Use the guess and check strategy. (Lesson 9–2)

15. Mirna is making muffins for the bake sale. One batch is blueberry and one batch is banana nut. The third batch is twice as big as the blueberry and banana nut batch. If Mirna made 96 muffins, how many muffins were in the blueberry and banana nut batches?

16. Dan watched soccer practice for an hour on Tuesday. Wednesday and Thursday he watched twice as long, and on Friday, he watched an hour longer than he did the day before. How much time did Dan spend watching soccer practice?
Problem-Solving Practice

Metric Units of Capacity

Solve.

1. Tanya has a cold. What metric unit of measure should her mother use to measure the amount of liquid cold medicine Tanya should take? ____________________________

2. Circle the best estimate for each.
   Bottle cap: 40 L 40 mL
   Bucket: 7 L 7 mL
   Mug: 480 L 480 mL

   List the containers in order from least to greatest capacity.
   ____________________________

3. Lisa bought a liter of water. She drank 250 milliliters. How much water is left in the bottle? ____________________________

4. The chef put 2 teaspoons of vanilla extract into a cake recipe. About how much vanilla extract is this, 2 mL or 2 L? ____________________________

5. Maurice used a glass that held 250 milliliters of liquid to fill a 2-liter bottle. How many times did he have to refill and pour the water from the glass to fill the bottle? Explain.
   ____________________________

6. Below is Dena’s recipe for fruit punch. Write the missing metric units of capacity for each ingredient.

   Dena’s Fruit Punch
   Frozen orange juice: 2 _____
   Pineapple juice: 360 _____
   Apple juice: 1 _____

   ____________________________
9-4 Homework Practice
Problem-Solving Investigation

Use any strategy to solve.

1. Leo was building a fence. The fence was 63 meters long. If Leo placed a post every 9 meters, how many posts would he need?

2. Ciana baked a batch of cookies. Susana ate 4 cookies, Dimas ate 7 cookies, Pedro ate 6 cookies and Ciana ate 3. There were 4 cookies left over. How many cookies did Ciana bake?

3. Benito was painting some rooms in his house. Each room used 1 liter of paint, but his living room used 2 liters. If Benito paints 6 rooms, how many liters of paint did he use?

4. Olivia picked 2 \( \frac{1}{2} \) kilograms of cherries. She divided the cherries evenly among 10 small baskets. How much did each basket hold?

Spiral Review

Compare. Use <, >, or =. (Lesson 9-3)

5. 4 L _____ 4,000 mL
6. 500 mL _____ 1 L

7. 10,000 mL _____ 100 L
8. 3,500 L _____ 3,500 mL

9. At Carmen’s birthday party, each child drank at least 450 mL of punch. Carmen invited 12 of her closest friends. If Carmen’s mom made 5 L of punch, was there enough? Explain your answer.

10. Marcos was filling his small pool in the backyard. The hose was not working and he had to use a bucket to fill his pool. The pool held 600 liters of water. His bucket held 5 liters. How many times would he have to fill his bucket in order to fill the pool?
Homework Practice

Metric Units of Mass

1. List 4 things you may measure in grams:

________________________________________________________________________

2. List 4 things you may measure in kilograms:

________________________________________________________________________

Choose the most appropriate unit to measure each mass. Write gram or kilogram.

3. one strawberry

4. a bag of flour

5. a bag of concrete

6. cocoa mix

7. rubber bands

8. a bag of dog food

Spiral Review

Use any strategy to solve. (Lesson 9–4)

9. Cheryl is stringing beads for bracelets. She can fit 35 beads on each length of string. If she has 315 beads, how many bracelets can she make?

________________________________________________________________________

10. The school hallway is 50 meters. How many times would you have to walk up and down the hall to walk a full kilometer?

________________________________________________________________________
Problem-Solving Practice

Metric Units of Mass

Solve.

1. List the items below in order from least to greatest mass.
   sheet of paper
   box of crayons
   feather

2. What metric unit of mass would you use to measure the mass of a spoon?

3. A paper clip has a mass of 1 gram.
   A box of paper clips has a mass of 1 kilogram. How many paper clips are in the box?

4. A liter of water has a mass of about 1 kilogram. Matt carries a liter of water and 750 grams of granola bars in his lunch box. Does the water or box of granola bars have a greater mass? Explain.

5. Wendy estimates that 5 of her erasers have the same mass as her box of pencils. Each of her erasers has a mass of 150 grams. The box of pencils has a mass of 1 kilogram. Is her estimate correct? Explain.

6. One side of a balance scale has a textbook with a mass of 2 kilograms. How many paper clips would you need to put on the other side of the scale to balance it if each paper clip has a mass of 1 gram?
Homework Practice
Metric Unit Conversions

Convert each unit.

1. _____ centimeters = 1 meter

2. 1,000 millimeters = _____ centimeters

3. _____ meters = 2 kilometers

4. 1 liter = _____ milliliters

5. _____ grams = 5 kilograms

6. _____ centimeters = 7 meters

7. 3 kilometers = _____ meters

8. 8,000 milliliters = _____ liters

Compare. Use >, <, or =.

9. 80 km ____ 8,000 m

10. 15 m ____ 15 cm

11. 17,000 g ____ 17 kg

12. 1 L ____ 1,000 mL

13. 100 cm ____ 1 m

14. 100 m ____ 100 mm

15. 1,500 mL ____ 1 L

16. 400 cm ____ 30 m

17. 5,000 g ____ 40 kg

Spiral Review

Choose the most appropriate unit to measure each mass.
Write gram or kilogram. (Lesson 9–5)

18. one grape ________________

19. a quarter ________________

20. a bag of pet food __________

21. teapot ________________

22. teaspoon of salt __________

23. a couch ________________
Solve.

1. A bedroom door is 3 meters tall. What is its height in centimeters?

2. A kitten has a mass of 2,000 grams. What is its mass in kilograms?

3. Each paper cup holds 50 milliliters of water. How many cups of water would you need to fill a 2-liter bottle?

4. An apple has a mass of 200 grams. What is the mass of 10 apples in kilograms?

5. The art teacher displays several pictures side-by-side across a wall. Each picture is about 24 cm wide. The line of pictures measures 1 meter from end to end. How many pictures are displayed in the line? Explain.

6. Greg has 6,500 milliliters of water in a large jug. He wants to pour the water into liter bottles so that the water will be easier to store. What is the least number of bottles he will need? Explain.
Classify each polygon.

1. _____  2. _____  3. _____  4. _____  5. _____

Fill in the blank with the correct term:

6. An _________ has ends that do not meet.
7. Each line segment in a polygon is called a _________.
8. A _________ is a closed plane figure with three or more line segments.
9. A _________ begins and ends at the same point.
10. A _________ is a flat figure.

Solve.

11. Eve is setting the dinner table with dishes, placemats, napkins, and utensils. What are some of the polygons she may be seeing on her table?

12. Carlos was admiring the city skyline. Do you think the building tops were open figures or closed figures? Explain your answer.

Spiral Review

Convert each unit.

13. 2 L = _________ mL  14. 8 km = _________ m  15. 4,000 g = _________ kg
Solve.

1. Each tile on a floor has 5 sides and 5 angles. What shape is each of the tiles?

2. What is the shape of the stop sign?

3. Peter made a hexagon using 6 toothpicks. He now wants to change the hexagon into an octagon. How many more toothpicks does he need?

4. Is a circle a polygon? Why or why not?

5. Four students were asked to name the figure below. Each student answered differently, but each was correct. What were the students’ answers?

6. Lana drew a design using the same number of hexagons and octagons. The design has a total of 42 sides. How many hexagons are in the design?

______ hexagons
Homework Practice

Perimeter

Find the perimeter of each figure.

1. 
   \[ \text{4 in.} \quad 4 \text{ in.} \quad 4 \text{ in.} \]

2. 
   \[ 3 \text{ cm} \]

3. 
   \[ \begin{array}{c}
   17 \text{ ft} \\
   \text{12 ft}
   \end{array} \]

4. 
   \[ \begin{array}{c}
   5 \text{ in.} \\
   2 \text{ in.} \\
   \text{7 in.}
   \end{array} \]

5. 
   \[ 3 \text{ m} \]

6. 
   \[ \begin{array}{c}
   2 \text{ m}
   \end{array} \]

Using the grids, create a shape with the following perimeters.

7. \[ 5 + 4 + 5 + 4 \]

8. \[ 6 + 2 + 2 + 6 \]

9. \[ 2 + 9 + 2 + 9 \]

Spiral Review

Solve. (Lesson 10–1)

10. 
   \[ \begin{array}{c}
   \triangle \\
   \hexagon \\
   \square \\
   \cup
   \end{array} \]

Which figure doesn’t fit? Tell why.

11. Is the sun a plane figure? Explain your answer.

12. How many sides does an octagon have? ____________
1. Jean will put a paper border around the 4 walls in the living room. How many feet of border paper will she use? _____ ft

2. How much border paper is needed to go around the walls of the dining room? _____ ft

3. A rose garden is hexagonal in shape. Two of the sides are 14 feet and the remaining four sides are 16 feet each. How much fencing is needed to completely enclose the garden? _____ ft

4. Each of two bulletin boards is a 6 ft by 8 ft rectangle. How much border paper is needed to go around both boards? _____ ft

5. The perimeter of the small gym is 120 feet. If the gym is rectangular in shape and it is 20 feet wide, how long is the gym? _____ ft

6. Zoe will sew lace around a rectangular tablecloth. The tablecloth is 60 inches long and 48 inches wide. If lace costs $2 per foot, how much will Zoe pay for the lace she needs? _____
**10–3 Homework Practice**

*Area*

**Determine the area of each shaded figure.**

1.  
2.  
3.  

4.  
5.  
6.  

**Solve.**

7. Sean and Jim were pouring some new concrete. They needed to fill a square that was 2 feet by 2 feet. What was the area of concrete poured? 

8. The new swimming pool in the neighborhood was huge. It was 60 meters by 8 meters. What was the area of the pool? 

**Spiral Review**

Find the perimeter of each figure. (Lesson 10–2)

9. 3 + 4 + 5 + 6 =

10. 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 =

11. 5 + 8 + 10 + 13 =

12. What is the perimeter of a parallelogram where one side is 12 m and the other side is 8 m?
1. What is the area of the rug in square units? 
   _____ square units

3. What is the area of the floor that is not covered by a rug? 

5. Shawna wants to cover her living room with wall-to-wall carpeting. The carpet she wants is $4 a square yard. If her living room is 3 yards long and 5 yards wide, how much will the carpeting cost? 

2. What is the area of the whole floor, including the rug covered area? 
   _____ square units

4. If the rug were 5 units long and 4 units wide, how much greater would its area be than the one shown in the model? 
   _____ square units greater

6. Kaitlin is hanging a painting on her wall. The frame is 10 inches by 12 inches. If the frame is 2 inches wide all around, what is the area of the painting? 

Shaded part = area of floor covered by a rug
1. Tommy, Katy and Lily were eating grapes. Tommy ate twice as many grapes as Katy, and Lily ate half as many grapes as Katy. If Katy ate 6 grapes, how many grapes did the three of them eat in all?

2. Pat and Rich drove to the beach last weekend. It took them twice as long to get back as it did to drive there. If they spent 9 hours traveling to and from the beach, how long did it take them to drive each way?

3. Rosa was very proud of her floral arrangement. It contained 8 black-eyed susans, 12 tulips, 15 daisies, and the rest were roses. If her arrangement had 4 dozen flowers, how many were roses?

4. Carol was collecting quarters from different states. She had 5 quarters from California, 8 from Texas, and twice as many from Florida as from California and Texas combined. If Carol had 39 quarters, how many were from Florida?

5. Amy bought valentines for her class. They were sold in boxes of 8. Amy has 25 students in her class. How many boxes of valentines will she need to purchase?

6. Sean’s baby brother sleeps about 13 hours a day. If he takes 2 two-hour naps, how long does he sleep at night?

Spiral Review

Find the area of each figure. (Lesson 10–3)

7. a yard that is 30 meters by 8 meters

8. a photo that is 5 in. by 8 in.

9. a kitchen that is 12 ft by 11 ft

10. a placemat that is 12 in. by 18 in.
Answer the following true or false.

1. An isosceles triangle has two equal sides. _____
2. An equilateral triangle has at least two sides that are equal. _____
3. A scalene triangle cannot contain a right angle. _____
4. A right triangle cannot be an equilateral triangle. _____
5. An isosceles triangle can be a right triangle. _____
6. A scalene triangle has no equal sides. _____

On the grids below, draw the following triangles.

7. an equilateral triangle 8. an isosceles triangle
9. a right triangle 10. a scalene triangle

Solve. Use the solve a simpler problem strategy. (Lesson 10–4)

11. Colleen ate apples 5 times a week. How many apples did she eat in 3 weeks?

12. Alicia scored three times as many points as Wade. If Wade scored 9 points, how many points did both children score in the game?
Homework Practice

Quadrilaterals

Answer the following true (T) and false (F) questions.

1. A rectangle is a quadrilateral. ______
2. Some quadrilaterals have parallel sides. ______
3. A parallelogram has two pairs of parallel sides. ______
4. A square is a rectangle. ______
5. A square must have four right angles. ______
6. A parallelogram has right angles. ______

On the grids below, draw the following quadrilaterals.

7. a rectangle
8. a parallelogram
9. a square

Spiral Review

Draw each type of triangle. (Lesson 10–5)

10. Draw an isosceles triangle.
11. Draw a scalene triangle.
12. Draw a right triangle.
**Problem-Solving Practice**

*Quadrilaterals*

**Solve.**

1. Rhonda makes two different quadrilaterals with toothpicks. Both have sides of the same length. Name one of the quadrilaterals she could have made.

2. The pattern blocks in a box are quadrilaterals except for one. What shape could the block that is not a quadrilateral be?

3. Three picture frames are on a dresser. Two are shaped like squares and the other is shaped like a parallelogram. How many sides are there in all in the frames?

4. Collin says that all quadrilaterals are polygons, but not all polygons are quadrilaterals. Is he correct? Explain.

5. Three students were asked to draw a parallelogram. Each drew a different shape, but each was correct. Explain how that can be.

6. Are both of the shapes shown below parallelograms? Explain.
Use any strategy to solve.

1. Irene had 15 thank you notes to write for her birthday gifts. She could easily write 3 thank you notes a night. How many nights will it take her to finish her notes?

2. Elena and Ricky had a contest. For every 2 apples she would eat, he would eat 3 kiwi. If Elena ate 6 apples, how many kiwi did Ricky eat?

3. Catalina was selling fruit in her neighborhood. She visited 6 houses on her block, and 7 houses on the next block. By the time she was finished, she had visited 19 houses in all. How many houses must she have visited on the third block?

4. Matt and Cecelia are going to Washington, D.C. on vacation and want to visit the Capitol, the Washington Monument, and the National Zoo in one day. They only have 8 hours and want to spend twice as much time at the Zoo as the other monuments. How much time can they spend at the Capitol and the Washington Monument?
Identify each solid figure.

1.  

2.  

3.  

4. Luisa was trying to describe the item used to hold her morning orange juice. What solid figure would you consider a juice glass to be?

5. Ella was exercising with a large round object. What solid figure would you consider this yoga ball to be?

Spiral Review

Use any strategy shown below to solve. (Lesson 10–7)

- Choose an operation
- Make a table
- Guess and check
- Solve a simpler problem

6. Cesar was hanging a garland around the room. The garland was 40 feet long. He needed to tack it up every five feet. How many times did he have to tack the garland?

7. Sigrid was helping her parents lay new tile in the foyer of their house. The foyer was 8 feet by 8 feet, but the tiles were 4 square feet. How many tiles will they need to fill the space?
Problem-Solving Practice
Solid Figures

Solve. Use the art for questions 1–2.

1. Penny had a drink in a container shaped like a rectangular prism. What did Penny drink?

2. What is the shape of the orange juice container?

3. Lorena was searching for the perfect pine tree. If the tree were perfect, it might be in this solid shape. What would it be?

4. Ricky traced around the bottom of a box shaped like a pyramid. What shape did Ricky draw?

5. Which of these pencil parts is shaped like a cylinder? A cone?

6. Hector kept his toys neatly stored in his toy chest. What solid figure would you consider his toy chest to be?
10–9 Homework Practice
Complex Solid Figures

Identify the figures that make each complex solid. Possible answers given.

1. 
2. 
3. 
4. 

Solve.

5. Lucy was helping her parents construct a concrete birdbath in her backyard. They had a cone shape and a flattened cylinder. How do you think they put this birdbath together?

6. 
7. 
8. 

Spiral Review
Identify each solid figure. (Lesson 10–8)
10–9 Problem-Solving Practice
Complex Solid Figures

Solve.

1. Paul had a number of tall, thin cylinders and cones. He needed to construct a fence around his pet’s play area. Draw the structure you think Paul created.

   

2. Alma was excited to be creating the furniture for her new bedroom. Alma had two rectangular prisms, a triangular prism, two cubes, and five flattened cylinders to incorporate into her design. What do you think her new room may have looked like?

   

3. Lina and Jose were very busy building a sand castle at the beach last week. They used 15 cones, 8 cylinders, 5 rectangular prisms, 4 triangular prisms, a pyramid, and 10 cubes in their design. It won a prize! Recreate the castle that won a prize at the beach last week.

   

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Find the volume of each solid figure.

1. 

2. 

3. 

4. 

5. 

6. 

7. Name the solid figures in the complex figure above.

8. Carmen and Luisa were carefully looking at a ferris wheel. What solid figures do you think they could find in that ferris wheel?
Solve.

1. How many cubic units long \((l)\) is the box? _____ cubic units
   How many cubic units wide \((w)\)? _____ cubic units
   How many cubic units high \((h)\)? _____ cubic units

2. What is the volume of the box in cubic units?
   _____ cubic units

3. Miko’s jewelry box is 4 units long, 5 units wide, and 6 units high. What is its volume?
   _____ cubic units

4. Haki built a box out of 24 cubic units. What could the dimensions of the box be?

5. A ring box is 3 inches long, 2 inches wide, and 1 inch high. What is the volume of 2 of these boxes?
   _____ cubic inches

6. Each block is 1 cubic inch in volume. How many blocks could you fit into a box that is 4 in. long, 4 in. wide, and 4 in. high?
   about _____ blocks
11–1
Homework Practice
Bar Graphs

1. Display the data in a vertical bar graph.

<table>
<thead>
<tr>
<th>Kind of Pet</th>
<th>Tally</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat</td>
<td>HHHHH</td>
<td>8</td>
</tr>
<tr>
<td>Dog</td>
<td>HHH</td>
<td>6</td>
</tr>
<tr>
<td>Horse</td>
<td>II</td>
<td>2</td>
</tr>
<tr>
<td>Bird</td>
<td>HHH</td>
<td>5</td>
</tr>
<tr>
<td>Fish</td>
<td>HHH</td>
<td>3</td>
</tr>
</tbody>
</table>

2. How many students attended the China Travel Day?

3. How many students attended the Ghana Travel Day?

4. How many more students attended the New Zealand Travel Day than the Spain Travel Day?

5. How many students attended the New Zealand Travel Day?

For exercises 2–5, refer to the graph below.

Students Who Attended Travel Day

<table>
<thead>
<tr>
<th>Country</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>16</td>
</tr>
<tr>
<td>Ghana</td>
<td>14</td>
</tr>
<tr>
<td>China</td>
<td>12</td>
</tr>
<tr>
<td>New Zealand</td>
<td>10</td>
</tr>
</tbody>
</table>

Spiral Review
Find the volume. (Lesson 10–10)

6. 

7. 

8. 

Find the volume.
For Exercises 1–6, refer to the graph.

1. How many free throws did Grade 3 make on Field Day?
   ______ free throws

3. How many free throws did Grade 4 make?
   ______ free throws
   How can you tell?

5. How would you change the bar graph to show that Grade 2 made 6 free throws?

2. Which grade shown in the graph made the most free throws?
   Grade ______
   How can you tell?

4. What numbers does the scale show?

How would the bar graph change if you changed the scale to show every two numbers?

6. How many free throws were made altogether by Grades 3 through 6?
   ______ free throws
Display the set of data in a line plot.

1. Blue Jays Seen at Bird Feeder

<table>
<thead>
<tr>
<th>Number of Blue Jays</th>
<th>Tally</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>/</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>///</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>///</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>///</td>
<td>3</td>
</tr>
</tbody>
</table>

For Exercises 2–4, refer to the line plots that shows the number of states students have visited.

2. How many states have most students visited?

3. How many students have visited three states?

4. How many students participated in this survey?

Spiral Review  (Lesson 11–1)

5. Take the line plot used for Exercises 2–4 and display it in a horizontal bar graph.

6. Why might we use a vertical bar graph rather than a horizontal bar graph to display information?
Display the set of data in a line plot.

1. Make a line plot of the data. How many students go to sleep before 9:00 P.M.?

2. How many students go to sleep at 9:00 P.M. or later?

For Exercises 3–6, use the line plot that shows pets owned by students.

3. What pet do most students have?

4. What pet is owned by the least number of students?

5. How many students have fish?

6. How many students were surveyed?
Solve. Use the *make a list* strategy.

1. Yolanda and Hugo want to order a pizza. Yolanda wanted pepperoni and sausage while Hugo would not mind green peppers and onions. In order to make everybody happy, they decided to come up with a combination. How many different combinations are possible?

2. Cristina is planting her spring garden. She had three different colors of tulips bulbs: yellow, purple, and pink. How many different color combinations can she come up with while planting her bulbs?

3. Francisco needs to do quite a few errands. He needs to stop by the cleaners, the post office, the hardware store, and the bank. There are a number of ways he can tackle his list of stops. How many ways can he accomplish his tasks?

4. At the end of the year, the class always had a cookout. They had hamburgers, cheeseburgers, and hot dogs. For dessert they had ice cream or cake. They served water or lemonade to drink. How many different ways could someone enjoy all the food at the end-of-the-year picnic?

Spiral Review

Display the set of data in a line plot. (Lesson 11–2)

5. In which week were the most loons seen?

6. How many loons were seen during all 4 weeks?
Describe the probability of landing on each number. Write certain, likely, unlikely, or impossible.

1. 2 _____
2. 5 _____
3. 1 _____
4. 1 or 4 _____
5. an even number _____
6. an odd number _____

Solve.

7. Is it certain or likely that a regular coin will land heads if flipped once?

8. Is it unlikely or impossible for it to snow if the temperature outside is 92°?

Spiral Review

Solve. (Lesson 11–3)

9. There are two girls and a boy in a row of seats on a bus. How many different ways can they sit in that row?

10. Pablo likes peanut butter, jelly, bananas, and marshmallow crème on his sandwiches. How many different sandwiches can he make with two toppings?

11. What three-digit numbers can be made using 1, 3, and 7?

12. Carla made beaded bracelets with red, white, blue, and gold beads. How many different ways can she combine the beads?

Name __________________________ Date __________
Solve. Use the words certain, likely, unlikely, or impossible.

A number cube has 6 sides numbered 1 through 6.

1. How would you describe the probability that you will toss a 7 if you toss the number cube?

2. How would you describe the probability that you will toss a 6 if you toss the number cube?

A bag has 6 green grapes and 8 red grapes.

3. Keisha is going to pick one item from the bag. How would you describe the probability that she will pick a grape?

4. How would you describe the probability that she will pick a red grape?

A spinner is divided into 10 equal sections numbered 1 through 10.

5. If Clea spins the spinner, how would you describe the probability that she will land on a number less than 3?

6. How would you describe the probability that she will land on either an odd or even number?
Use any strategy shown below to solve. Tell what strategy you used.

• Make a model
• Make a table
• Work backward
• Guess and check
• Work a simpler problem
• Make a list

1. There are 5 small bags of banana chips, 8 small bags of pretzels, and twice as many packets of nuts as pretzels. How many bags of snacks are there?

2. The baby’s quilt is 2 feet wide by 3 feet long. Mark’s mom offered to make one twice as big. What will the perimeter of the new quilt be?

3. The combined age of Irene’s pets is 23 years. The cat is 5 years older than the dog. If the dog isn’t 10 yet, how old could the cat be?

4. Marta has 2 dimes, 4 nickels, a quarter, and 10 pennies. Does she have enough to buy an apple that costs 75 cents?

5. Tara gets to her hotel at 11:15 A.M. She was traveling for 1 hour 45 minutes. At what time did Tara start traveling?

6. If you add 54 to a number, subtract 29, and the result is 30, what was your original number?

**Spiral Review**

Describe the probability. Write certain, likely, unlikely, or impossible. (Lesson 11–4)

7. You will land on a weekday ____________
8. You will land on a weekend day ____________
9. You will land on a month of the year ____________
10. You will land on a day that is either a weekday or weekend day ____________
11–6

Homework Practice

Make Predictions

The tally chart shows the results of spinning the spinner 50 times.

1. Make a prediction for the next number.

2. If you were to spin another 10 times, do you think the outcomes would be more even? Explain your answer.

3. There are 25 fruit candies in the bag: 8 orange, 10 lemon, and 7 strawberry. What flavor would you be most likely to pick? Explain.

4. If there were 13 orange, 13 strawberry, and 10 lemon fruit candies left in the bag, which would you have a better chance of picking: orange, strawberry, or lemon? Explain.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Tally</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>HHT</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>HHT</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>HHT</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>HHT</td>
<td>13</td>
</tr>
</tbody>
</table>

Spiral Review (Lesson 11–5)

Use any strategy to solve.

5. Jose had 25 cents in his pocket. What were all of the possible coin combinations he could have had?

6. Mr. Bolton was building a fence. He bought 20 lengths of fencing that were each 8 feet long. The perimeter of the fence was 145 feet. How much fencing did he have left over?
Place a red crayon, a yellow crayon, and a green crayon in a brown lunch bag. Pick a crayon 25 times and keep a tally in the table below. Then answer the questions.

<table>
<thead>
<tr>
<th>Crayons in a Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>red</td>
</tr>
<tr>
<td>yellow</td>
</tr>
<tr>
<td>green</td>
</tr>
</tbody>
</table>

1. What color did you pick the most frequently? _____
2. What color would you probably pick next? _____
3. What do you think your results would look like if you picked crayons twice as many times?

Repeat the experiment above, but pick 50 times. Add your data to the chart above and compare your results.

4. What do you think will happen if you add another color crayon?

Add one more color and pick another 25 times. Record the color and your data to the chart below.

<table>
<thead>
<tr>
<th>Crayons in a Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>red</td>
</tr>
<tr>
<td>yellow</td>
</tr>
<tr>
<td>green</td>
</tr>
</tbody>
</table>
12–1

Homework Practice

Parts of a Whole

Draw a picture for each fraction. Shade the fraction.

1. two-sixths
2. one-seventh
3. five-eighths
4. $\frac{1}{5}$
5. $\frac{2}{4}$
6. $\frac{1}{3}$

What fraction is shaded?

7. 
8. 
9. 
10. 

Spiral Review

The tally chart shows the results of picking a name out of a hat 25 times and then replacing it each time.

<table>
<thead>
<tr>
<th>Pick a Name</th>
<th>Outcome</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ali</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Kate</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Devin</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Aisha</td>
<td></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

11. What name is most likely to be pulled next? Why?

12. What two names are equally likely to be picked? Explain.

Chapter 12

Grade 3

181
Solve.

1. One half of the wall is blue and one half is yellow. What fraction shows the part of the wall that is blue?

2. A muffin is cut up into 3 equal parts. One of the parts has been eaten. What fraction of the muffin has been eaten?

3. Betty baked a meatloaf. She cut it into 5 equal slices. The family ate 3 of the slices. What fraction of the meatloaf did they eat?

4. Tom baked an apple pie and cut it into equal pieces. Tom ate one piece, which was $\frac{1}{6}$ of the pie. How many pieces did he cut the pie into?

5. Tony’s Pizzeria cuts their 8-inch pizzas into 4 equal slices. Martelli’s Pizzeria cuts their 8-inch pizzas into 6 equal slices. Andre had a slice of pizza at both pizzerias. At which pizzeria did Andre eat more pizza? Explain.

6. A loaf of bread is cut into 8 equal slices. How much of the bread is left after 6 slices have been used for sandwiches?
Use any strategy shown below to solve.

- Look for a pattern
- Make a table
- Draw a picture
- Guess and check
- Work backward

1. Marisela walks to and from school each day. It takes her 13 minutes to walk to school. How much time does Marisela spend walking to and from school each week?

2. There are two numbers whose sum is 9 and the difference is five. What are the two numbers?

3. The sign on the elevator says that it can safely carry 3,000 lbs. If you estimate that the average human weighs 150 lbs, how many people can ride in the elevator at one time?

4. A round trip ticket to Dallas is about $325. A one way ticket with restrictions can be purchased for $89. How much money can I save buying two one way tickets with restrictions?

Spiral Review

Draw a picture for each fraction. Shade the fraction. (Lesson 12–1)

5. $\frac{3}{4}$  
6. $\frac{1}{3}$  
7. $\frac{2}{3}$  
8. $\frac{4}{7}$  
9. $\frac{3}{5}$  
10. $\frac{7}{8}$
**12-3**

**Homework Practice**

**Equivalent Fractions**

**Draw an equivalent fraction for the following fractions.**

1. \(\frac{3}{6}\)  
2. \(\frac{2}{8}\)  
3. \(\frac{3}{9}\)

4. \(\frac{2}{4}\)  
5. \(\frac{5}{10}\)  
6. \(\frac{6}{8}\)

**Write another fraction that names each fraction.**

7. two-sixths ______  
8. eight-tenths ______

9. four-eighths ______  
10. six-ninths ______

**Solve.**

11. Fred offered three fourths of the pizza or nine-twelfths of the pizza. Did he offer equal portions? ______

12. Alfonso needed help mowing the lawn. Danny offered to mow one fourth and Hector offered to mow one sixth. Will Alfonso have more than half or less than half of the lawn to mow? ______

**Spiral Review**

**Solve. Use the draw a picture strategy. (Lesson 12-2)**

13. Carolina walked west one block, south one block, east one block, and south one block. Did she make a complete square? ______

14. There were twelve flowers in the vase. Three were red, four were orange, and the rest were yellow. How many yellow flowers were in the vase? __________

15. Six lunch boxes sat on the ledge. Half were plain, and the rest had cartoon characters on them. How many were plain? __________

16. There were 15 houses on the block. Eight of them hung the flag out to fly. Did more than half the houses fly the flag? ______
12–3 Problem-Solving Practice
Find Equivalent Fractions

Solve.

1. Lenny colored \( \frac{1}{2} \) of his picture. What is another fraction that tells the part of the picture he colored?

2. A painter has painted \( \frac{2}{8} \) of a ceiling. What is an equivalent fraction for this?

3. Phillip has a box that is divided into 4 equal sections. He fills 2 of the sections with sand. Write two equivalent fractions that tell how much of the box is filled.

4. A granola bar is cut into 3 equal parts. Grace eats one part. Write two equivalent fractions that tell how much of the bar she ate.

5. A circular tablecloth has 8 equal sections. Two sections are white, two are red, two are blue, and two are black. What part of the tablecloth is not white? What is another fraction you can use to name this part?

6. A spinner is divided into 6 equal sections. The sections are numbered in order from 1 through 6. What part of the spinner has even numbers on it? What is another fraction you can use to name this part?

7. Dennis finished half of his homework. Christine finished one third of her homework. Have they completed the same amount of work?

8. Olivia drank half a cup of milk. Her brother drank \( \frac{5}{10} \) of a cup of milk. Did they drink the same amount?
Homework Practice

Problem Solving Strategy

Solve. Use the draw a picture strategy.

1. Lorena opened up her top drawer. She had twelve pairs of socks in the drawer. Three pairs were patterned, six were colored, and the rest were white. How many pairs of socks were white?

2. Rafael was sorting his two dozen model cars. He had 8 red cars, 5 green vans, 6 pickup trucks, and the rest were one of a kind cars. How many one of a kind cars did Rafael have?

3. Five cats are sitting on the fence. The black cat is second. The orange cat is next to the grey cat, and the striped cat is on the end. If the grey cat is fourth, where is the white cat?

4. Dora took a dozen crackers out of the oven. Kenny ate three and Marcos ate five. How many are left?

5. There are six pairs of shoes in the closet. There is one pair of sneakers, two pairs of flip flops, and one pair of dress shoes. The rest do not fit. How many pairs of shoes do not fit?

6. Watson is 3 miles directly south of Panera. Caribou is 2 miles directly west of Watson. Wells is 3 miles directly north of Panera. Is that possible? Explain.

Spiral Review

Complete each number sentence to find equivalent fractions. (Lesson 12-3)

7. \( \frac{3}{4} = \frac{\underline{\hspace{1cm}}}{12} \)

8. \( \frac{1}{8} = \frac{\underline{\hspace{1cm}}}{16} \)

9. \( \frac{2}{5} = \frac{\underline{\hspace{1cm}}}{10} \)

10. \( \frac{5}{7} = \frac{\underline{\hspace{1cm}}}{21} \)

11. \( \frac{4}{5} = \frac{\underline{\hspace{1cm}}}{6} \)

12. \( \frac{2}{32} = \frac{2}{\underline{\hspace{1cm}}} \)

Grade 3 187
Homework Practice

Compare Fractions

Compare. Write >, <, or =. Use fraction strips, a number line, or a drawing if needed.

1. \( \frac{1}{2} \) _____ \( \frac{3}{4} \)  
2. \( \frac{3}{5} \) _____ \( \frac{2}{5} \)  
3. \( \frac{1}{6} \) _____ \( \frac{2}{6} \)  
4. \( \frac{1}{4} \) _____ \( \frac{1}{8} \)  
5. \( \frac{2}{6} \) _____ \( \frac{1}{4} \)  
6. \( \frac{3}{8} \) _____ \( \frac{1}{4} \)  
7. \( \frac{2}{5} \) _____ \( \frac{7}{8} \)  
8. \( \frac{2}{8} \) _____ \( \frac{2}{3} \)  
9. \( \frac{2}{3} \) _____ \( \frac{3}{8} \)  
10. \( \frac{1}{3} \) _____ \( \frac{2}{6} \)  
11. \( \frac{3}{7} \) _____ \( \frac{2}{5} \)  
12. \( \frac{3}{4} \) _____ \( \frac{5}{8} \)  
13. \( \frac{1}{2} \) _____ \( \frac{1}{3} \)  
14. \( \frac{1}{4} \) _____ \( \frac{2}{8} \)  

Solve.

15. Callie ate \( \frac{3}{4} \) of a cup of dog food and Spirit ate \( \frac{7}{8} \) of a cup of cat food. Who ate more? ______

16. Alonso finished \( \frac{2}{3} \) of his homework before dinner and Ana finished \( \frac{5}{6} \). Who has less homework to finish after dinner? ______

Spiral Review

Use any strategy shown below to solve. (Lesson 12-4)

- Guess and check
- Draw a picture
- Look for a pattern
- Make a table
- Work backward

17. Gregoria needs to be to school by 8:15. It takes her 20 minutes to walk and about 30 minutes to get ready in the morning. What time should Gregoria wake up each morning? ______

18. There are two numbers whose sum is 10 and the difference is 2. What is the number? ______

19. Augusto’s school supplies totaled $11.82. He gave the clerk three five-dollar bills. How much change did he receive? ______

20. Ramon has four brothers; two older and two younger. They are each two years apart. If Ramon is nine, how old is his oldest brother? ______
Solve.

1. Pete and Sal share a bag of chips. Pete eats $\frac{1}{4}$ of the chips and Sal eats $\frac{3}{4}$ of the chips. Who eats more?

2. If $\frac{2}{5}$ of the class are boys and $\frac{3}{5}$ are girls, are there more boys or girls?

3. It takes $\frac{3}{4}$ of an hour for Randy to walk from home to school. It takes $\frac{1}{2}$ hour for him to walk from home to the mall. Does Randy live closer to school or to the mall?

4. Alice has finished $\frac{2}{3}$ of her homework. Sam has finished $\frac{1}{2}$ of his homework. Who has more homework left to do, Alice or Sam?

5. In a recipe for fruit salad, Marta adds $\frac{1}{2}$ pound of apples, $\frac{3}{4}$ pound of grapes, and $\frac{1}{3}$ pound of cherries. Which fruit did she use the most of?

6. Jack and Sandra each have $100 in savings. Jack spent $\frac{1}{2}$ of his savings on a new coat and $\frac{3}{8}$ of the savings on a new pair of sneakers. Sandra spent $\frac{2}{5}$ of her savings on a new coat. Who spent more money on a coat?

7. Two loaves of bread are the same size. One is cut into 8 pieces. The other is cut into 10 pieces. Which has the largest pieces?

8. Which weighs more $\frac{1}{3}$ lb of lead or $\frac{1}{2}$ lb of feathers?
Add. Use fraction strips if needed.

1. $\frac{1}{7} + \frac{5}{7}$
2. $\frac{1}{5} + \frac{3}{5}$
3. $\frac{1}{3} + \frac{1}{3}$
4. $\frac{2}{4} + \frac{1}{4}$
5. $\frac{1}{4} + \frac{1}{4}$
6. $\frac{2}{6} + \frac{2}{6}$
7. $\frac{1}{8} + \frac{1}{8}$
8. $\frac{3}{10} + \frac{2}{10}$
9. $\frac{2}{8} + \frac{6}{8}$
10. $\frac{4}{9} + \frac{3}{9}$
11. $\frac{3}{4} + \frac{1}{4}$
12. $\frac{7}{11} + \frac{3}{11}$

Solve.

13. Dan walked $\frac{3}{10}$ of a mile then ran $\frac{5}{10}$ of a mile. How far did he go?

14. A recipe calls for $\frac{3}{4}$ of a cup white sugar and $\frac{1}{4}$ of a cup dark brown sugar. How much sugar will be used for the recipe?

15. Manuel has soccer practice 3 days a week and baseball practice 2 days a week. What fraction of the week does Manuel have practice?

Spiral Review

Compare. Write $<, >, =$. (Lesson 12-5)

16. $\frac{2}{4}$ $\bigcirc$ $\frac{1}{3}$
17. $\frac{3}{10}$ $\bigcirc$ $\frac{3}{11}$
18. $\frac{4}{9}$ $\bigcirc$ $\frac{3}{10}$
19. $\frac{3}{5}$ $\bigcirc$ $\frac{3}{4}$
20. $\frac{1}{4}$ $\bigcirc$ $\frac{3}{9}$
21. $\frac{1}{8}$ $\bigcirc$ $\frac{1}{7}$
12–6  Problem-Solving Practice

Add Fractions

Solve. Use fraction models if needed.

1. Kitty the cat ate $\frac{1}{6}$ of her food in the morning and $\frac{2}{6}$ in the afternoon. How much of her food did Kitty eat so far?

2. A plant grew $\frac{1}{5}$ of an inch during the first week and $\frac{3}{5}$ of an inch the next week. How much did the plant grow in the two weeks?

3. A model car storage box is divided into 8 equal sections. $\frac{3}{8}$ of the sections have model sports cars and $\frac{2}{8}$ have model trucks. The rest of the box is empty. What fraction of the box is filled so far?

4. Of the dozen eggs in a box, $\frac{4}{12}$ have been colored pink and $\frac{3}{12}$ have been colored blue. The other eggs have not been colored. What fraction of the eggs have been colored?

5. Ricky paints $\frac{1}{8}$ of his room on Monday, $\frac{3}{8}$ on Tuesday, and $\frac{2}{8}$ on Wednesday. What fraction of his room did Ricky paint by the end of the day on Wednesday?

6. There are 12 apples in a bag. Everett eats $\frac{1}{6}$ of them and Lilly eats $\frac{2}{6}$ of them. What fraction of the apples have been eaten so far?

How many apples are left in the bag?
Homework Practice

Subtract Fractions

Subtract. Use fraction strips if needed.

1. \( \frac{3}{4} - \frac{2}{4} = \) _____
2. \( \frac{4}{6} - \frac{1}{6} = \) _____
3. \( \frac{4}{5} - \frac{3}{5} = \) _____
4. \( \frac{6}{7} - \frac{5}{7} = \) _____
5. \( 1 - \frac{1}{2} = \) _____
6. \( \frac{6}{6} - \frac{4}{6} = \) _____
7. \( \frac{8}{9} - \frac{4}{9} = \) _____
8. \( \frac{7}{8} - \frac{5}{8} = \) _____
9. \( \frac{8}{11} - \frac{4}{11} = \) _____
10. \( \frac{9}{10} - \frac{4}{10} = \) _____
11. \( 1 - \frac{1}{4} = \) _____
12. \( \frac{2}{3} - \frac{1}{3} = \) _____

Solve.

13. The bathtub is filled up \( \frac{5}{6} \) of the way. After Tom gives the dog a bath, it is filled \( \frac{3}{6} \) of the way. How much water did the dog splash out of the tub?

14. There were a dozen ice pops in the box. Juan ate \( \frac{2}{12} \) of the box. How much was left?

15. The gallon of milk was \( \frac{3}{4} \) full. Rosa drank \( \frac{2}{4} \) of the gallon. How much was left?

Spiral Review

Add. Use fraction strips if needed. (Lesson 12-6)

16. \( \frac{3}{12} + \frac{3}{12} = \) _____
17. \( \frac{4}{10} + \frac{5}{10} = \) _____
18. \( \frac{2}{8} + \frac{5}{8} = \) _____
19. \( \frac{1}{2} + \frac{1}{2} = \) _____
20. \( \frac{5}{7} + \frac{1}{7} = \) _____
21. \( \frac{1}{3} + \frac{2}{3} = \) _____
12–7 Problem-Solving Practice
Subtract Fractions

Solve.

1. Lorrie found $\frac{3}{4}$ of an apple pie in the refrigerator. She ate $\frac{2}{4}$ of the pie. What fraction of the pie was left?

$$\frac{1}{4}$$

2. There is $\frac{7}{8}$ of a quart of milk in a bottle. Brianne pours $\frac{2}{8}$ of a quart of milk into a glass. How much milk is left in the bottle?

$$\frac{1}{8}$$

3. A box of crayons fell on the floor. If $\frac{7}{12}$ of the crayons fell out, what fraction of the crayons are still in the box?

$$\frac{1}{4}$$

4. Alex ran $\frac{8}{12}$ of a mile. Rhea ran $\frac{5}{12}$ of a mile. In simplest form, how much farther did Alex run than Rhea?

$$\frac{1}{4}$$

5. Ben found $\frac{7}{10}$ of a pound of flour in the pantry. He needed to use $\frac{3}{10}$ of a pound of flour for bread that he was baking. His mom said that she needed $\frac{3}{10}$ of a pound of flour for dinner. After Ben and his mom use the flour, how much will be left in the bag?

$$\frac{1}{4}$$

6. Mea baked a peach pie and an apple pie. At the end of the day, $\frac{7}{8}$ of the peach pie was left and $\frac{3}{8}$ of the apple pie was left. In simplest form, how much more peach pie was left than apple pie?

$$\frac{1}{4}$$
Write a fraction and a decimal for the part that is shaded.

1. 
   
   
   
   
   

2. 
   
   
   
   
   

Write each fraction as a decimal.

3. \( \frac{5}{10} \)

4. four tenths

5. \( \frac{2}{10} \)

6. Benny ate \( \frac{3}{10} \) of his snack.

7. Han ate \( \frac{1}{10} \) of his beans.

Write each decimal as a fraction.

8. 0.6

9. 0.8

10. 0.1

11. Jamil had 0.5 of his sandwich left.

12. Arnie has 0.2 of his drink.

Spiral Review

Draw two pictures for each fraction. (Lesson 12–1)

13. \( \frac{3}{5} \)

14. \( \frac{1}{7} \)
Name ____________________________ Date ________________

13–1

Problem-Solving Practice

Tenths

Solve.

1. Kosey was one of 10 players on his team. If there are 4 girls, write the number of girls in decimal form. Write the number of boys on the team in a fraction form.

2. There are 10 cats in the shelter. Three cats are black, 1 is white, and 6 are tabbies. How many cats are tabbies out of the ten? Write your answer in a decimal form.

3. You ate 0.8 of your french fries. How many do you have left? Write your answer as a fraction.

4. Akira has 6 toy cars. His friend, Masao has 4 toy cars. What is the fraction of toys that Akira had out of the 10 toys they had altogether?

5. Your pizza has ten pieces altogether and you ate two pieces. How many pieces do you have left? Write a fraction.

6. If you saw 4 red birds and 6 blue birds, what part of the birds were red? Write your answer as a decimal.

7. Out of her 10 toes, your sister painted 0.5 of her toes red and 0.5 of them white. How many were red out of the 10?

8. You have 4 pairs of sneakers and 6 pairs of other shoes, including 2 pairs of dress shoes. How many sneakers do you have out of all the shoes? Write the number of sneakers in decimal form and as a fraction.

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Write a fraction and a decimal for the part that is shaded.

1. 
2. 
3. 

____ 
____ 
____ 

Write each decimal as a fraction.

4. 0.64 ____  
5. 0.17 ____
6. 0.48 ____  
7. 0.35 ____

Spiral Review

Write each fraction as a decimal. (Lesson 13–1)

8. 3  
9. 6  
10. 2

11. 7  
12. 4

Write each decimal as a fraction.

13. 0.1 ____
14. 0.3 ____
Problem-Solving Practice

Hundredths

Solve.

1. Omar had a box of 100 pretzels. If he separated them out for snacks, and he put 10 in a bag, how many pretzels did he use if he made 5 bags? Write your answer as a fraction and a decimal.

2. Order the numbers from smallest to largest.
   \[0.65, \frac{4}{100}, \frac{89}{100}, 0.42\]

3. Your puzzle has 100 pieces. You have only 47 pieces left, so what part have you put together out of 100 in a fraction form?

4. In your novel, you are on page 34 out of 100. What is the decimal and fraction of the part you have left to read?

5. Zina has eaten \(\frac{75}{100}\) of her lunch. What part of the lunch does she have left?

6. A zoo has 100 animals. If there are 40 reptiles, 25 mammals, and 35 birds, how many mammals are there out of the 100? Write your answer as a fraction.

7. There are 100 toy men in a package. Your friend places 54 pieces on his side, how many pieces do you have?

8. You have planted 94 rows out of your 100-row garden. How many rows do you have left to plant?
Homework Practice

Problem-Solving Strategy

Solve. Use the act it out strategy.

1. A scuba diver saw many animals on his dive. If you can see 0.5 of the animals in the picture, how many more animals did the diver see? How many total animals did he see?

2. A fisherman caught a total of 10 fish in one day. If he ate 0.3 of the fish for breakfast and 0.3 of the fish for lunch, how many fish did he have for dinner?

3. Mai Lin has saved 7 coins. If she needs 10 coins to buy a toy, how many more coins does she need?

4. Sunee has 0.4 of her stuffed animals. She lent 0.2 of them to one friend. How many of her stuffed animals did she lend to her other friend?

5. Mini collects bugs. She has 48 bugs altogether. If she can fit 10 bugs in each container, how many containers will she need to house all of her collection?

Spiral Review

Write each fraction as a decimal. (Lesson 13–1)

6. \( \frac{6}{10} \)  
7. \( \frac{2}{10} \)  
8. \( \frac{9}{10} \)

Write each decimal as a fraction.

9. 0.8  
10. 0.1  
11. 0.8

12. If you eat 0.6 of the pretzels and you had 10 to start with, how many are leftover?
Write the part of a dollar each amount represents.

1. [Image of a quarter]

2. [Image of a $1 bill and a quarter]

3. [Image of 5 dimes and 2 quarters]

4. Fatou has 5 dimes and 2 quarters. How much money does she have altogether?

Write each fraction as a decimal.

5. \( \frac{7}{10} \)

6. \( \frac{3}{10} \)

7. \( \frac{92}{100} \)

Write each decimal as a fraction.

8. 0.4

9. 0.6

10. 0.65
Solve. Tell what you did to solve the problem.

1. A pack of batteries costs $4.75 in the hardware store. The same pack costs $3.50 in the office supply store. How much more are the batteries in the hardware store?

2. Clarise has $6.50. She owes her brother $2.25. How much will Clarise have if she pays her brother the money she owes him?

3. Renee started with $25 in her checking account. She deposited another $8.85, then paid her grocery bill for $12.65. How much does she have left after buying a new CD for $15? Explain.

4. Mr. Maxwell bought a hammer for $5.75 and a wrench for $4.20. How much did he spend in all?

5. A paperback book costs $0.95 more than a magazine and a magazine costs $0.85 more than a puzzle. If the puzzle costs $3.45, how much do the book and magazine cost altogether?

6. Admission to the zoo is $12.95 for adults. Admission to the amusement park is $15.75 more than admission to the zoo. How much is admission to the amusement park?
Use any strategy shown below to solve. Tell what strategy you used.

Problem-Solving Strategies

- Guess and Check
- Draw a picture
- Work a simpler problem
- Act it out
- Make an organized list

1. There are 15 children on the playground at recess. If 3 are on the swing set and 4 are on the monkey bars, how many are left to play ball?

2. You are having a fence built around your pool. How many feet of the fence will they need?

3. Danielle has five coins. The total of her coins is $0.51 cents. If she has 1 penny, 1 nickel, and 1 quarter, how many dimes does she have?

4. Louis spent 0.6 of his piggy bank on a gift. How much of his bank does he have left?

Spiral Review

Write each fraction as a decimal. (Lesson 13–4)

5. \(\frac{3}{10}\) ______
6. \(\frac{2}{10}\) ______
7. \(\frac{65}{100}\) ______

Write each decimal as a fraction.

8. 0.8 ______
9. 0.9 ______
10. 0.49 ______
**Homework Practice**

*Multiply Multiples of 10, 100, and 1,000*

**Multiply. Use basic facts and patterns.**

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>$2 \times 3 = \underline{\hspace{2cm}}$</td>
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<td>$2 \times 30 = \underline{\hspace{2cm}}$</td>
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<td>$2 \times 300 = \underline{\hspace{2cm}}$</td>
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<td>$2 \times 3,000 = \underline{\hspace{2cm}}$</td>
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<td>$2 \times 700 = \underline{\hspace{2cm}}$</td>
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<td>$2 \times 7,000 = \underline{\hspace{2cm}}$</td>
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<td>7.</td>
<td>$3 \times 80 = \underline{\hspace{2cm}}$</td>
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<td>$50 \times 60 = \underline{\hspace{2cm}}$</td>
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<tr>
<td></td>
<td>$700 \times 60 = \underline{\hspace{2cm}}$</td>
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</tr>
</tbody>
</table>

**Solve.**

15. There were 4 rows of desks in Cecilia’s classroom and 10 in each row. How many desks were there? ___________

16. On Valentine’s Day the florist delivered 100 vases of flowers. Each vase held one dozen flowers. (Remember: a dozen = 12) How many flowers were delivered that day? ___________

**Spiral Review**

Solve. Add and subtract. (Lessons 2–4 and 2–5)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>17.</td>
<td>$$3.05 + 8.06 = \underline{\hspace{2cm}}$</td>
</tr>
<tr>
<td>19.</td>
<td>$$14.23 − 2.17 = \underline{\hspace{2cm}}$</td>
</tr>
</tbody>
</table>
1. Nathan earns $30 a week at his part-time job. How much does he earn in 3 weeks?

2. The fruit store has 2 crates of apples left to sell. There are 50 apples in each crate. How many apples are left in all?

3. Shelley wants to make 800 copies of the third-grade class newsletter. The newsletter is 6 pages long. How many sheets of paper will she need to make the copies?

4. Some computers send information at the speed of 200 megabytes every second. How many megabytes could be sent in 8 seconds?

5. Benson School has 3 third-grade classrooms. There are 3 computers in each of the classrooms. Each computer costs $2,000. How much did all of the third-grade computers cost?

6. A carpenter made 90 new shelves. The materials for each bookshelf cost $9. He sells the shelves for a total of $1,800. How much profit did he make?
14–2
Name ___________________________ Date ___________________________

Homework Practice

Problem-Solving Strategy

Solve. Use logical reasoning.

1. There were three horses in four stalls. Lightning was in the first stall and Pinto was in the fourth. Ginger was next to Lightning. Which stall was empty?

2. Ben was hungry for a good snack, but wasn’t sure what to choose from the fruit basket. The bananas, apples, pears, and kiwis looked delicious. He was walking out the door, so he didn’t want to deal with a peel, and the pears and kiwis weren’t ripe. What did he pick?

3. What is the largest three digit number you can write without using a 9 in the hundreds place or ones place, or an 8 in the tens place?

4. Katie was the oldest of five children. She had one younger sister and three younger brothers. Brendan was in the middle, Tommy was older than Brendan, and Brendan was older than Lily, who was older than John. Where did John fall in the family?

5. Five cats were in the backyard. Oscar belonged to Robin. Gizmo belonged to Jason. Cosmo and Burt didn’t belong to Kirsten, and Speck didn’t belong to Pat. What are the names of Pat’s two cats?

6. Carmen, Manuel, and Diego argued about who was first in line. Diego had been line leader last week, and the teacher said “ladies first.” Who will be first in line?

7. Marta made three sandwiches; turkey on a roll, ham on white, and tuna on rye. Jen doesn’t like rolls and Ana doesn’t care for deli meats. What is Marta left with for lunch?

Spiral Review

Multiply. (Lesson 14–1)

8. 80 × 60 = ______
9. 6 × 5,000 = ______
10. 7 × 70 = ______

11. 400 × 20 = ______
12. 20 × 20 = ______
13. 300 × 9 = ______
Estimate. Round to the nearest ten.

1. $72 \times 4 = \underline{300}$
2. $15 \times 6 = \underline{90}$
3. $45 \times 3 = \underline{100}$
4. $82 \times 8 = \underline{800}$
5. $34 \times 6 = \underline{200}$
6. $27 \times 5 = \underline{100}$
7. $66 \times 7 = \underline{400}$
8. $87 \times 3 = \underline{200}$

Estimate. Round to the nearest hundred.

9. $370 \times 9 = \underline{3000}$
10. $252 \times 5 = \underline{1000}$
11. $416 \times 5 = \underline{2000}$
12. $509 \times 6 = \underline{3000}$
13. $626 \times 3 = \underline{1000}$
14. $849 \times 4 = \underline{2000}$
15. $639 \times 8 = \underline{5000}$
16. $771 \times 9 = \underline{6000}$
17. $235 \times 4 = \underline{1000}$

Solve. Estimate by rounding to the nearest ten or nearest hundred.

18. Sonia carved a pumpkin and found 843 seeds inside. If she carved 5 more pumpkins, about how many seeds should she find? ________________

19. The washer takes about 53 minutes to complete a load of laundry. If Francisco washes 8 loads of laundry a week, about how long is the washer running? ________________

Solve. Use logical reasoning. (Lesson 14–2)

20. Four girls discussed their favorite colors. Olivia likes the color of oranges and pumpkins. Marisol likes the hues of grass and tree leaves. Patricia likes shades similar to apples and cherries. Cristina likes the color of the sky when the sun is shining. What color did each girl like?

21. There were three gifts in three boxes. The toy was not in the metal box. The homemade pretzels were not in a cardboard box. The stuffed animal was not in a wooden or cardboard box. What gifts were in each of the boxes?
Problem-Solving Practice

Estimate Products

Solve.

1. Each third-grade class has 25 students. There are three classes. About how many third-grade students are there in all? Round the answer to the nearest ten.

2. Pencils cost $0.38 each. Adam wants to buy 4 pencils. He has $1.60. Can he afford the pencils? Explain.

3. Chad wants to buy 6 different colored pencils. Each colored pencil costs $0.59. About how much will all of the pencils cost?

4. Dana wants to buy 4 puzzles that cost $3.98 each. She has $15.00 to spend. Does she have enough money for the 4 puzzles? Explain.

5. Habib buys 3 books that cost $6.95 each. About how much money does he spend on the books?

6. Erica has $5.00 to buy new pencils. She wants 1 purple pencil, 2 green pencils, 1 red pencil, and 5 blue pencils. Each pencil costs $0.49. Does she have enough money to buy all of the pencils she wants? Explain.
Homework Practice

14–4 Multiply by a One-Digit Number

Multiply.

1. 2 × 44 = ___  2. 2 × 43 = ___  3. 2 × 123 = ___  4. 3 × 23 = ___
5. 10 × 9 = ___  6. 214 × 2 = ___  7. 3 × 131 = ___  8. 42 × 2 = ___
9. 11 × 8 = ___ 10. 30 × 3 = ___ 11. 141 × 2 = ___ 12. 212 × 4 = ___
13. 400 × 2 = ___ 14. 323 × 3 = ___ 15. 312 × 2 = ___ 16. 114 × 2 = ___
17. 918 × 1 = ___ 18. 300 × 3 = ___ 19. 100 × 9 = ___ 20. 11 × 7 = ___
21. 402 × 2 = ___ 22. 131 × 2 = ___ 23. 232 × 3 = ___ 24. 222 × 4 = ___

Solve.

25. There is a shelf in the living room that has 4 shelves. There are 12 books on each shelf. How many books are there on the four shelves? _____________
26. Jorge is collecting baseball cards. He has 22 stacks of 4 cards. How many cards does he have altogether? _____________
27. Susana collected 2 cents at the recycling plant for each of her 242 cans. How much money did she collect altogether? _____________
28. Enrique can read a page in 3 minutes. How long will it take him to read 13 pages? _____________

Spiral Review

Estimate. Round to the nearest ten or hundred. (Lesson 14–3)

29. 85 × 6 = _______ 30. 703 × 4 = _______ 31. 315 × 4 = _______
32. 895 × 3 = _______ 33. 56 × 7 = _______ 34. 49 × 5 = _______
Problem-Solving Practice

Multiply by a One-Digit Number

Solve.

1. The straight part of Eli’s train track has 4 tracks. Each track is 7 inches. How many inches long is the straight part of the train track?
   _____ inches

2. Melissa owns 3 sets of trains. Each set has 6 train cars. How many train cars does Melissa have in all?
   _____ train cars

3. The border around a bulletin board is 35 inches long. There are 4 pieces of border paper left. Each piece is 9 inches long. Is there enough border paper to go around the bulletin board border? Explain.
   ________________

4. There are 3 groups of students in charge of decorating the hallway bulletin boards. Each group decorates 8 different boards around the school. How many bulletin boards are there in all?
   _____ bulletin boards

5. Paula can make 4 beaded bracelets in an hour. Tina can make 3 beaded bracelets in an hour. In one week Paula made bracelets for 6 hours and Tina made them for 8 hours. Who makes more bracelets in the week? Explain.
   ________________

6. Each box has 30 of the same colored beads. Every bracelet has 4 blue beads and 3 red beads. If Jackie makes 5 bracelets, how many beads will be left in the box of blue beads?
   _____ blue beads

How many will be left in the box of red beads?
   _____ red beads
Homework Practice

Problem-Solving Investigation

Solve. Use any strategy shown below.

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

1. It’s Monday night. Irene has to type up 16 pages between now and Friday morning. How many pages will she need to type a night to meet her deadline?

2. Ernesto has 8 dimes, 2 nickels and 10 pennies. What is the fewest number of coins he could carry in his pocket that would equal the same amount of money?

3. Four friends were sitting around a table playing cards. Jude sat across from Pat, and Kurt was to the left of Jude. Where was Sean?

4. Alicia is trying to decide how much lemonade to make. If two cups equals a pint, and 2 pints equals a quart, how many cups are in 4 quarts?

5. Bernice is designing a diamond pattern for her new patchwork quilt. How many right triangles can she make out of a square of fabric?

6. Mariano was offering Jackie a deal. He was offering her five-eighths of a 9-inch pizza for four-ninths of a 9-inch cake. If Jackie accepts, who is getting more to eat?

Spiral Review

Multiply. (Lesson 14-4)

7. \(22 \times 3 = \)______

8. \(44 \times 2 = \)______

9. \(123 \times 2 = \)______

10. \(3,003 \times 3 = \)______

11. \(212 \times 4 = \)______

12. \(424 \times 2 = \)______
Multiply Two-Digit Numbers

Multiply.

1. \(24 \times 6 = \) ______  
2. \(15 \times 4 = \) ______  
3. \(56 \times 2 = \) ______  
4. \(19 \times 5 = \) ______  
5. \(36 \times 3 = \) ______  
6. \(82 \times 4 = \) ______  
7. \(61 \times 6 = \) ______  
8. \(50 \times 5 = \) ______  

Solve.

9. Elena was reading a book with 9 chapters. Each chapter had 21 pages. How many pages did the book have? ______

10. Laura walked her dog 6 blocks a day. How many blocks did she walk in 21 days? ______

11. There were 9 thirsty players in line. If each received a 20-ounce serving of lemonade, how many ounces of lemonade would be served to the players? ______

12. There were 7 ice cubes in each glass. How many ice cubes were needed for 18 glasses? ______

Spiral Review

Choose the best strategy to solve. (Lesson 14-5).

13. If one pair of jeans cost $39, how much would ten pairs of jeans cost? ______

14. Five students were in line. Emily was next to Isabel. Isabel was next to Brittany. Susana was last. Where was Ernesto? ______

15. Adam wanted to buy 10 newspapers at a quarter apiece. How much money did he spend? ______
Problem-Solving Practice

Multiply Two-Digit Numbers

Use models to solve.

1. Vin works 16 days each month. How many days does he work in 2 months?

2. Gina earns $15 per hour. How much does she earn for 4 hours?

Solve.

3. Each lesson in a science book has 34 pages. There are 8 lessons in the book. If Ed reads all of the lessons, how many pages will he have read?

4. There are 25 white paper clips and 75 silver paper clips in each box. How many silver paper clips are in 9 boxes?

5. The school store sells folders at a price of $0.48 each. An office supply store has a special sale of 6 folders for $3. Which store sells 6 folders for less money? Explain.

6. A grocery store sells bags of peanuts for $0.45 each, bags of cashews for $0.78 each, and bags of almonds for $0.95 each. Bryan pays for 2 bags of each kind of nut with a $5 bill. How much change should he get back?
Homework Practice

Multiply Greater Numbers

Multiply.

1. 152 × 3 = ______
2. 427 × 4 = ______
3. 127 × 5 = ______

4. 1,724 × 3 = ______
5. 536 × 2 = ______
6. 214 × 3 = ______

7. 521 × 4 = ______
8. 392 × 6 = ______
9. 2,386 × 6 = ______

10. 3,074 × 7 = ______
11. 812 × 8 = ______
12. 75 × 7 = ______

Solve.

13. A round-trip plane ticket to Ft. Worth, Texas, is $267. How much would 5 tickets cost? ______

14. If there are 128 ounces in a gallon of milk, how many ounces are in 9 gallons? ______

15. Mrs. Hernandez took her class on a field trip to the zoo. Admission to the zoo was $5. There were 25 students in the class. How much did it cost for the class to enter the zoo? ______

Spiral Review

Multiply. (Lesson 4-6)

16. 32 × 5 = ______
17. 94 × 3 = ______

18. 57 × 8 = ______
19. 27 × 6 = ______

20. 81 × 4 = ______
21. 23 × 4 = ______
Solve.

1. Pocket Electronics store has 2 floors of products. Each floor has 115 CD players. How many CD players are in the store?
   _______ CD players

2. Each rack in the electronics store has 161 DVDs. There are 3 racks. How many DVDs are in the store?
   _______ DVDs

3. It takes 494 gallons of paint to paint the outside of the school building. The building is painted every year. How many gallons of paint are used after 5 years of painting the building?
   _______ gallons

4. Seven new classrooms are being added to the Lumberton Elementary School. The floor in each classroom takes 1,276 tiles. How many tiles are needed to cover all of the floors of the new classrooms?
   _______ tiles

5. You must climb 1,060 steps to reach the second floor of the Eiffel Tower in Paris, France. Andre walked up and down three times. How many steps did he walk up and down all together?
   _______ steps

6. Neil is an airline pilot. On each of his first 4 trips, he flew 3,456 miles. On his last trip he flew 8,569 miles. How many miles did he fly in all 5 trips?
   _______ miles
Multiply.

1. $3.53 \times 4 = _____
2. $2.75 \times 6 = _____
3. $1.89 \times 7 = _____
4. $0.99 \times 8 = _____
5. $6.34 \times 3 = _____
6. $4.28 \times 5 = _____
7. $5.77 \times 2 = _____
8. $7.09 \times 6 = _____
9. 8 \times 4.89 = _____

Use the table to answer Exercises 10-12.

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<thead>
<tr>
<th>Burt's Car Wash</th>
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<tbody>
<tr>
<td>Wash only</td>
<td>$5.25</td>
</tr>
<tr>
<td>Wash and Dry</td>
<td>$5.75</td>
</tr>
<tr>
<td>Wash and Wax</td>
<td>$6.00</td>
</tr>
<tr>
<td>Wash, Wax, Dry</td>
<td>$6.75</td>
</tr>
</tbody>
</table>

10. If 10 cars go through Burt's car wash and have a wash only, how much will it cost?
   ___________________________________________

11. How much will it cost for three cars to have a wash, wax, and dry?
    ___________________________________________

12. Antonio has his car washed and waxed at Burt's every Saturday. How much does it cost him after 7 weeks?
    ___________________________________________

13. Carla ordered 6 orders of fries. They cost $1.29 a piece. How much was the total bill?
    _________________

14. Elena bought three new pairs of socks for $3.89. How much did she spend?
    _________________

Spiral Review

Multiply. (Lesson 14-7)

15. 214 \times 7 = _____
16. 1,305 \times 6 = _____
17. 284 \times 8 = _____
18. 346 \times 4 = _____
19. 2,197 \times 5 = _____
20. 3,721 \times 3 = _____
14–8

Problem-Solving Practice

Multiply Money

Solve.

1. Lee was buying pillows for her outdoor furniture. She bought eight pillows at $19.98 each to place on the outdoor sofa, and 4 pillows at $15.99 each to scatter on the outdoor chairs. How much money did Lee spend on new pillows? ______

2. Cathy was eager to add books to her collection. She became interested in a series that had 6 books in a set. Each book cost $6.99. How much would the set of 6 cost Cathy? ______

3. Each Saturday, Trevor mows lawns. The lawns are small, so he has time to mow 7 of them. He charges $25 for each lawn. How much does Trevor earn each Saturday? ______

4. Armando’s class was selling magazine subscriptions to help buy new equipment for the science room. Armando sold 10 subscriptions at $9.99 apiece. How much did Armando contribute to the cause? ______

5. Ava and her family went to the baseball game. Each ticket cost $8.50. If Ava went with her mother, father, and three siblings, how much money did they spend on tickets? ______

6. The scout troop was selling evergreen wreaths for the holidays. Each wreath cost $29.95. If they sold 4 wreaths, how much money did the troop make? ______

7. The school’s marching band was getting new uniforms. Each uniform cost $25.75. How much would 10 new uniforms cost? ______

8. Antonio was flying back to Boston to visit his grandmother. His mom and dad were sending him with his sister. If the tickets were $389 round trip, how much would it cost for them to fly? ______
Homework Practice

Divide Multiples of 10, 100, and 1,000

Use basic facts and patterns of zeros to find each quotient.

1. \(8 \div 2 = \) ________
   
   \(80 \div 2 = \) ________
   
   \(800 \div 2 = \) ________
   
   \(8,000 \div 2 = \) ________

2. \(63 \div 7 = \) ________
   
   \(630 \div 7 = \) ________
   
   \(6,300 \div 7 = \) ________
   
   \(63,000 \div 7 = \) ________

3. \(27 \div 9 = \) ________
   
   \(270 \div 9 = \) ________
   
   \(2,700 \div 9 = \) ________
   
   \(27,000 \div 9 = \) ________

4. \(10 \div 5 = \) ________
   
   \(100 \div 5 = \) ________
   
   \(1,000 \div 5 = \) ________
   
   \(10,000 \div 5 = \) ________

Divide.

5. \(3,600 \div 4 = \) ________
6. \(770 \div 7 = \) ________
7. \(56,000 \div 8 = \) ________

8. The Espinoza triplets want to put together a puzzle that has 1,500 pieces. If each one puts together the same number of pieces, how many pieces does each triplet have to put together?

9. A farmer has 24,000 acres of land. He wants to divide it evenly among 8 different crops. How much land does each crop get?

Spiral Review

Multiply. (Lesson 14–8)

10. \(7 \times $3.67 \) ________
11. \(9 \times $9.50 \) ________
12. \($2.19 \times 4 \) ________
13. \($8.25 \times 4 \) ________
Problem-Solving Practice
Dividing Multiples of 10, 100, and 1,000

Solve.

1. After working for 3 weeks, Pat earned $600. How much did he earn each week?
   ______ each week

2. The office supply store has 20 boxes of folders left that are on sale. There are 800 folders in all. How many folders are in each box?
   ______ folders

3. The computer printer has 240 sheets of paper in it. Each student prints out an 8-page book report. Now the printer is empty. How many students printed out their reports?
   ______ students

4. Mr. Wilson will give out 120 textbooks to the class. Each student will get 6 textbooks. How many students are in the class?
   ______ students

5. Theo spent a total of $560 in 8 weeks. He spent the same amount each week. He spent $30 per week on food, and he paid bills with the rest of the money. How much did he spend each week on bills?
   ______ each week

6. It took 2,400 seconds for Megan to finish her science and math homework. Each assignment took the same amount of time to complete. Was this more or less than 1 hour for each assignment? Explain.

   ______________________
Homework Practice

Estimate Quotients

Estimate by rounding.

1. \(562 \div 8\) \[\underline{60}\]
2. \(3,638 \div 6\) \[\underline{606}\]
3. \(454 \div 5\) \[\underline{91}\]
4. \(2,437 \div 3\) \[\underline{812}\]
5. \(7,297 \div 9\) \[\underline{811}\]
6. \(823 \div 4\) \[\underline{205}\]
7. \(639 \div 7\) \[\underline{92}\]
8. \(18,456 \div 2\) \[\underline{9228}\]

9. The Anderson family is taking a cross-country road trip. They covered 2,420 miles in 8 days. If they wanted their next trip to be 2 days faster, about how many miles a day would they have to drive?

Spiral Review

Use basic facts and patterns of zeros to find each quotient. (Lesson 15–1)

10. \(18 \div 3\) \[=\] \[\underline{6}\]
11. \(38 \div 2\) \[=\] \[\underline{19}\]
12. \(52 \div 4\) \[=\] \[\underline{13}\]
180 \(\div 3\) \[=\] \[\underline{60}\]
380 \(\div 2\) \[=\] \[\underline{190}\]
520 \(\div 4\) \[=\] \[\underline{130}\]
1,800 \(\div 3\) \[=\] \[\underline{600}\]
3,800 \(\div 2\) \[=\] \[\underline{1900}\]
5,200 \(\div 4\) \[=\] \[\underline{1300}\]

Divide. Use patterns.

13. \(8,000 \div 4\) \[=\] \[\underline{2000}\]
14. \(250 \div 5\) \[=\] \[\underline{50}\]
15. \(45,000 \div 9\) \[=\] \[\underline{5000}\]

16. Five juice machines can hold 500 cans. How many cans of juice can each machine hold?

Grade 3

223
Estimate Quotients

Estimate to solve.

1. Amy feeds the 4 class hamsters the same amount of food each day. She has 22 ounces of food. About how many ounces of food does each hamster get per day?

   about _____ ounces

2. In art class, Cory is making paper chains. It takes him 6 minutes to make each chain. There are about 28 minutes left in class. About how many more chains can he make?

   about _____ more chains

3. Lorrie is emptying her sister’s wading pool with a pump. The pool holds 142 gallons. Each minute the pump removes 7 gallons of water. About how many minutes will it take to empty the pool?

   about _____ minutes

4. The third graders have raised $282 for their class trip to the Wildride Amusement Park. Admission to the park is $9. There are 30 students in the third grade. Do they have enough money for admission for all of them? Explain your answer.

   ____________________________________________
   ____________________________________________
   ____________________________________________

5. Nina saved $3.50 each week. After 7 weeks she spent half of her savings on a new shirt, and kept the other half in the bank. About how much did the shirt cost?

   about _____

6. The total distance around the Kennington Village Square is 3,928 feet. About how long is one side of the village square?

   about _____ feet
Name __________________________  Date __________________

15–3

Homework Practice

Two-Digit Quotients

Divide. Use models if needed. Check your answer.

1. \(96 \div 2 \) _____  
2. \(72 \div 8 \) _____  
3. \(85 \div 5 \) _____

Complete each table.


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<tr>
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<th>Output</th>
</tr>
</thead>
<tbody>
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5. Rule: Divide by 3.

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<table>
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</tr>
<tr>
<td>84</td>
<td>12</td>
</tr>
<tr>
<td>90</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

Divide. Use models if needed. Check your answer.

7. Yuki swam 93 feet across the pool in 10 seconds. How many yards is that?

8. Frank has 76 quarters in his pocket. How many dollars is that?

Spiral Review

Estimate by rounding. (Lesson 15–2)

9. \(198 \div 4 \)  
10. \(564 \div 7 \)  
11. \(8,056 \div 2 \)

12. To raise money for new uniforms, the student marching band must sell 688 concert tickets in a week. About how many tickets do they have to sell per day?
Estimate first. Then divide.

1. At the Royce School there are 48 cars in the teachers’ parking lot. The same number of cars are parked in each of 3 rows. How many cars are parked in each row?
   _____ cars

2. The art teacher has a collection of 56 paintbrushes. He puts the same number of brushes into 4 different sections of his art box. How many brushes are in each section?
   _____ brushes

3. Clare works at a laundromat. She will wash 72 pairs of pants. The washing machine can wash 6 pairs of pants for each load of laundry. How many loads of laundry will she need to do to wash all of the pants?
   _____ loads

4. For a class project, Marty has 69 pieces of pasta. He is pasting the pasta into 6 equal rows on poster board. How many pieces will be in each row?
   _____ pieces
   How many will be left over?
   _____ pieces

5. Gina has 42 pennies in her bank and 26 pennies in her wallet. She wants to exchange the pennies for nickels. How many nickels will she get?
   _____ nickels
   How many pennies will she still have left?
   _____ pennies

6. There are 18 boys and 17 girls in the third grade. Each day, 3 students will give an oral report. How many days will students be giving oral reports?
   _____ days
   How many students will give their report on the last day?
   _____ students
Solve. Use the **work backward** strategy.

1. Olivia is packing for vacation. Her large suitcase will fit 36 items of clothing and her small suitcase will fit 18 items of clothing. If she wants to bring 60 items of clothing, how many will she have to leave behind?

2. Gavin is saving up to buy a new bicycle. The one he wants costs $125. His mother is giving him $50, but he will have to earn the rest by mowing lawns for $5 each. How many lawns will he have to mow before he can buy the bicycle?

3. It’s 2 P.M. and Marvin needs to finish reading a 150-page book before returning it to the library at 5 P.M. He has already read 90 pages of the book. How many pages an hour does he have to read to return the book on time?

4. Francesca is a flower girl in a wedding. She has to drop rose petals on the ground with every other step she takes down the aisle. If it will take her 18 steps to make it down the aisle and her basket holds 360 rose petals, about how many petals can she drop each time?

---

**Spiral Review**

Divide. Use models if needed. (Lesson 15–3)

5. $87 \div 3 = \underline{\hspace{1cm}}$
6. $72 \div 6 = \underline{\hspace{1cm}}$
7. $86 \div 2 = \underline{\hspace{1cm}}$

Complete each table.

8. **Rule:** Divide by 4

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>88</td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>23</td>
</tr>
<tr>
<td>96</td>
<td></td>
</tr>
</tbody>
</table>

9. **Rule:** Divide by 5

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>17</td>
</tr>
<tr>
<td>95</td>
<td></td>
</tr>
</tbody>
</table>

10. **Rule:** Divide by 7

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>14</td>
</tr>
</tbody>
</table>
15–5

Homework Practice
Three-Digit Quotients

Divide. Check your answers.

1. $984 \div 2 = \underline{492}$
2. $625 \div 5 = \underline{125}$
3. $791 \div 7 = \underline{113}$
4. $558 \div 9 = \underline{62}$
5. $873 \div 3 = \underline{291}$
6. $336 \div 4 = \underline{84}$

Use the table for Exercises 7–10.

<table>
<thead>
<tr>
<th>Item</th>
<th>Number of Bottles</th>
<th>Total Number of Tablets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A</td>
<td>6</td>
<td>810 tablets</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>8</td>
<td>912 chewable tablets</td>
</tr>
<tr>
<td>calcium supplements</td>
<td>5</td>
<td>625 chewable tablets</td>
</tr>
<tr>
<td>multi-vitamins</td>
<td>9</td>
<td>945 tablets</td>
</tr>
</tbody>
</table>

7. How many Vitamin C tablets are in a bottle? ______________
8. How many Vitamin A tablets are in a bottle? ______________
9. How many multi-vitamins are in a bottle? ______________
10. How many calcium supplements are in a bottle? ______________

Spiral Review

Solve. Use the work backward strategy. (Lesson 15–4)

11. David’s dog needs a bath. If David uses a 5-gallon bucket to halfway fill a 60-gallon tub, how many buckets of water does he need to wash the dog?

12. Winnie is helping her uncle build a deck. They have 20 pieces of 12-foot lumber. If they need 2 screws for every 3 feet of lumber, how many screws do they need?
Problem-Solving Practice
Three-Digit Quotients

Solve.

1. Megan divides 147 carrots equally into plastic snack bags. If she puts 7 carrots in each bag, how many plastic snack bags does she need?
   _____ snack bags

2. Mrs. Ruiz has $1.26. She gives an equal amount to each of her 3 children. How much does each child get?
   $ _____ each

3. Elizabeth is making large candles. She has 228 pounds of wax. Each candle will use 6 pounds of wax. How many candles can Elizabeth make?
   _____ candles

4. Myla is the coach of the Pearson Sack Race Club. The club has 156 sacks and 7 members. After practice, each member takes the same number of sacks home. Myla takes home any sacks that are left over. If each member takes home as many sacks as possible, how many does Myla take home?
   _____ sacks

5. Larry plays on the school basketball team. He scored a total of 134 points in 5 games, and he scored the same number of points in each of the first 4 games. In the last game he scored 30 points. How many more points did he score in the last game than in any of the other 4 games?
   _____ more points

6. Rick plans to make 6 large birdhouses and 2 small ones. He will use a total of 148 nails. Each small birdhouse uses 8 nails. If each large birdhouse uses the same number of nails, how many nails will be used for each large birdhouse?
   _____
Use any strategy shown below to solve. Tell what strategy you used.

• Make an organized list
• Act it out
• Draw a picture
• Use logical reasoning
• Work backward

1. School starts at 8:45 A.M. Nick needs 30 minutes to get dressed and eat breakfast. It then takes him 35 minutes to get to school. What time does he have to wake up to be on time for school?

2. Melanie planted chives in her herb garden. After 2 weeks, they grew to 4 inches. The next day, they measured 5 and a half inches. The day after that, they measured 7 inches. If they continue growing at this rate, how tall were the chives the day after that?

3. Pepe needs to put lightbulbs on the second floor of his house. Two of the bedrooms have ceiling lamps that need 3 bulbs each. The other bedroom has 2 lamps that each need 1 bulb. The 4 bulbs above the bathroom mirror also need to be replaced. How many bulbs does Pepe need in all?

Spiral Review

Divide. Check your answers. (Lesson 15–5)

4. \(795 \div 3 = \) _____
5. \(666 \div 9 = \) _____
6. \(672 \div 7 = \) _____
7. \(408 \div 8 = \) _____
8. \(222 \div 6 = \) _____
9. \(425 \div 5 = \) _____
10. \(272 \div 4 = \) _____
11. \(477 \div 9 = \) _____

Grade 3

231
Divide. Check your answer.

1. $6.86 \div 7 \qquad 2. \quad $2.88 \div 9 \qquad 3. \quad \$\,7.48 \div 4 \qquad 4. \quad \$\,1.32 \div 6 \qquad 5. \quad \$\,9.36 \div 3 \qquad 6. \quad \$\,4.95 \div 5

Find the unit cost.

7. 8 jump ropes for $6.96 \qquad 8. 5 tropical fish for $7.95 \qquad 9. 6 organic apples for $7.44 \qquad 10. 4 beach balls for $9.68

Use the hardware store’s price list for Exercises 11–13.

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rope</td>
<td>3 yards for $6.27</td>
</tr>
<tr>
<td>Chain</td>
<td>5 yards for $5.75</td>
</tr>
<tr>
<td>Twine</td>
<td>9 yards for $2.70</td>
</tr>
</tbody>
</table>

11. Which is cheapest per yard? _________
12. Jackie bought 10 yards of one kind of item and it cost $11.50. What did she buy? _________
13. How many yards of rope did Hans buy if he spent $18.81? _________

Spiral Review

Solve. Tell what strategy you used. (Lesson 15–6)

14. Payton visited a modern artist’s exhibit. The first painting was a circle divided into 2 sections. The second was a triangle divided into 4 sections, and the third was a square divided into 5 sections. What do you think the fourth painting looked like?

15. A rowboat can carry 2 adults and 3 children across the lake. How many rowboats are needed to take 8 adults and 12 children across the lake?

Grade 3 233
Name ___________________________ Date __________________

15–7

Problem-Solving Practice

Divide Money

Solve.

1. Nate bought 2 hats for $9.20. How much did each one cost?

2. How much does one bottle of water and one banana cost if 6 bottles of water cost $6.12 and 5 bananas cost $3.50?

3. Danielle and Maria baby-sat on Saturday. They earned $24.50 total. How much will they each get if the money is split evenly?

4. Tickets to the amusement park are $19.30 each. How many tickets did Matt’s dad buy if he spent $96.50?

5. Raffle tickets are $2 each. Allison spent $10 on them. How many raffle tickets did she buy?

6. Sam paid $10.52 for 4 coffee mugs. How much did each one cost?

7. James cuts grass in his neighborhood. He charges $15 per lawn. If he made $60 in one month, how many lawns did he cut?

8. Amy, Sarah, and Lindsay earned $12.24 for walking a neighbor’s dog. How much will each receive if they share the money equally?

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