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2 3 4 5 6 7 8 9 10  073  2003 2002 2001
Benchmark Numbers

Vocabulary

Fill in the blank.

1. A __________ number is a point of reference. Benchmark numbers are often used to show number relationships.

Use the benchmark to decide which is the more reasonable number.

2. Pennies in the jar

500 or 5,000

3. Houses in the neighborhood

100 or 1,000

4. Height of a shrub

20 inches or 200 inches

5. Books on a shelf

200 or 2,000

Mixed Review

6. 3 + 8
7. 9 + 5
8. 16 + 12
9. 24 + 51
10. 45 + 22

11. 31 + 18
12. 44 + 29
13. 35 − 17
14. 35 − 27
15. 59 − 31

16. 12 + 11
17. 19 + 49
18. 62 + 21
Understand Place Value

Write the value of the digit 3 in each number.
1. 4,389
2. 3,270
3. 56,223
4. 78,530

Compare the digits to find the value of the change.
5. 67,335 to 47,335
6. 45,289 to 45,889
7. 48,367 to 42,367

Change the value of the number by the given amount.
8. 2,305 decreased by 200
9. 72,358 increased by 6,000
10. 46,883 decreased by 40
11. 29,402 increased by 40,000

Complete.
12. 56,891 = 50,000 + __________ + 800 + 90 + 1
13. ___________ 6,408 = 80,000 + 6,000 + 400 + 8

Mixed Review

14. 307 + 21 = 420
15. 818 + 66 = 884
16. 77 + 18 = 95
17. 213 + 190 = 403
18. 633 + 7 = 640
19. 100 − 22 = 78
20. 87 − 24 = 63
21. 98 − 69 = 29
22. 53 − 8 = 45
23. 110 − 56 = 54
Place Value Through Hundred Thousands

Vocabulary

Write the correct letter that describes each number.

1. 340,548
   - a. expanded form
2. 300,000 + 40,000 + 500 + 40 + 8
   - b. word form
3. three hundred forty thousand, five hundred forty-eight
   - c. standard form

Write each number in two other forms.

4. 408,377
   - __________________________
   - __________________________
   - __________________________
5. 20,000 + 600 + 30 + 2
   - __________________________
   - __________________________
6. six hundred fourteen thousand, two hundred thirty-nine
   - 7. 892,200
   - __________________________
   - __________________________
   - __________________________

Complete.

8. 35,309 = thirty-five _________, three hundred _________ = 30,000 + _________ + 300 + 9
9. 60,000 + 4,000 + ___________ + 20 + 5 = ___________ thousand, eight hundred twenty-five = ___________4,8__________5

Write the value of the bold digit.

10. 569,394 _______ 11. 495,294 _______ 12. 384,294 _______

Mixed Review

Place Value Through Millions

Vocabulary

1. The period after thousands is ________________.

Write the value of the bold digit.

2. 45,595,445
3. 3,502,305
4. 735,495,305

__________________  ________________  ________________

Write each number in word form.

5. 6,393,203
6. 492,203,200

__________________  ________________

__________________

__________________

__________________

__________________

Compare the digits to find the missing number.

7. 32,615,394; 32,715,394; __________; 32,915,394

8. 5,398,394; 6,398,394; __________; 8,398,394

9. Write the standard form of the number which is 1,000,000 less than forty-five million, three hundred twelve thousand, eight hundred.

10. Write 312,393,205 in expanded form.

__________________

Mixed Review

Complete.

11. 70,000 + 8,000 + 40 + 9

__________________

12. 100,000 + 60,000 + 900 + 3

__________________

13. 690 − ______ = 422

__________________

14. ______ + 222 = 879

PW4 Practice
Problem Solving Skill

Use a Graph

The United States Department of Agriculture has named 5 food groups and recommends a maximum number of daily servings from each group.

<table>
<thead>
<tr>
<th>Maximum Daily Servings</th>
</tr>
</thead>
<tbody>
<tr>
<td>dairy</td>
</tr>
<tr>
<td>meat</td>
</tr>
<tr>
<td>vegetables</td>
</tr>
<tr>
<td>fruit</td>
</tr>
<tr>
<td>bread and cereal</td>
</tr>
</tbody>
</table>

Key: Each 🍎 stands for 2 servings.

1. What is the maximum recommended number of meat servings?

2. Which two food groups have the same number of recommended servings?

3. Of which food groups can you eat more than four servings per day?

4. Of which food group can you eat the most servings?

5. Today, Erika ate 5 servings of meat. How would you represent this on the pictograph?

6. What is the total number of fruit and vegetable servings recommended?

7. Rolanda has eaten 7 servings from the bread and cereal group today. How many more servings can she have?

8. At breakfast, Jamika’s banana counted as 2 fruit servings. How many more fruit servings can she have today?

Mixed Review

What is the value of the digit 7?

9. 1,762
10. 7,900,631
11. 44,072,461
12. 817,535
Compare Numbers

Write the greater number.

1. 3,568 or 3,658
2. 8,468 or 8,482
3. 35,689 or 34,690
4. 8,948 or 21,385
5. 389,584 or 388,499
6. 3,843,982 or 3,847,302
7. 25,679 or 22,329
8. 3,457,822 or 3,458,835
9. 9,248,355 or 924,835

Compare. Write <, >, or = in each 〇.

10. 3,489 〇 3,578
11. 25,899 〇 25,890
12. 75,673 〇 75,673
13. 3,142,355 〇 314,235
14. 33,452,236 〇 35,235,032

Find all of the digits that can replace each □.

15. 6□7,348 < 647,348
16. 35,468,245 < 35,468,□45

Mixed Review

17. Write 8,000,000 + 30,000 + 5,000 + 400 + 30 + 2 in standard form.

18. Write 32,883 in word form.

19. What digit is in the ten thousands place of 32,456,922?

20. Write the value of the digit 8 in the number 385,722?

21. Round 7,899 to the nearest hundred.

22. Round 42,616 to the nearest ten.
Order Numbers

Write the numbers in order from least to greatest.

1. 15,867; 15,394; 15,948; 15,493
2. 65,447; 65,743; 65,446; 65,395
3. 249,330; 247,449; 248,390
4. 3,456,490; 3,458,395; 3,359,498

Write the numbers in order from greatest to least.

5. 45,387; 48,339; 47,110
6. 252,484; 259,793; 258,932
7. 2,783,859; 2,788,394; 2,937,383
8. 360,839; 45,395; 366,395
9. 2,783,859; 2,788,394; 2,937,383
10. 360,839; 45,395; 366,395

Name all of the digits that can replace each ○.
11. 4,599 < 4,63 ○ < 4,634
12. 3,554,684 > 3, ○ 69,304 > 3,184,394

Mixed Review

13. 25 + 42
14. 99 + 21
15. 95¢ − 43¢ + 86
16. 78¢ − 24¢ + 26

18. Stacey jogged for 25 minutes on Saturday and 38 minutes on Tuesday. How much longer did she jog on Tuesday than on Saturday?
19. Rolanda completed 12 homework problems before dinner and 18 after dinner. How many homework problems did she complete altogether?
Problem Solving Strategy

Make a Table

Make a table to solve.

The Sahara Desert in Africa has an area of 3,500,000 square miles. The Simpson Desert in Australia has an area of 56,000 square miles. In North America, the Mojave Desert has an area of 15,000 square miles; and the Kalahari Desert in Africa has an area of 275,000 square miles.

1. Which desert has the greatest area?

2. Which two deserts are located on the same continent?

3. Which desert(s) has an area of less than 100,000 square miles?

4. Where is the desert with the least area located?

Mixed Review

5. Write \(3,000,000 + 20,000 + 5,000 + 300 + 70 + 2\) in standard form.

6. Write in order from least to greatest: 254,879; 2,254,920; 1,678,305; 353,502.

Compare. Write \(<\), \(>\) or \(=\).

7. 354,992 \(\bigcirc\) 288,492

8. 7,394,398 \(\bigcirc\) 7,394,398

9. 394,234 \(\bigcirc\) 3,294,394

10. \(9,421,720 - 6,198,135\)

11. \(210,076 + 935,811\)

12. \(8,176,553 + 30,602\)

13. \(172,442 - 172,435\)

14. \(786 - 421 = \) ________

15. \(2,779 - 460 = \) ________
Round Numbers

Round each number to the nearest thousand.

1. 5,339     2. 9,895     3. 75,367     4. 22,022
   5,000     10,000     75,000     22,000

5. 5,600,679  6. 1,354,029  7. 283,966  8. 636,592

Round each number to the place of the bold-faced digit.

9. 6,333     10. 837     11. 8,021
   6,000     1,000     8,000

   40,000  350,000  500,000

15. 24,546  16. 888,044  17. 47,164
   20,000  800,000  40,000

18. 1,999,444  19. 1,366,901  20. 9,203,774
   2,000,000  1,000,000  9,000,000

Mixed Review

21. 9 + 4 + 5 = ____  22. 27 + 33 + 59 = ____  23. 48 − 29 = ____
   18       100       19

24. 6 \times 2  25. 8 \times 5  26. 9 \times 8  27. 7 \times 7
   12       40       72       49

28. What is the value of the digit 7 in 478,394?  29. What is the value of the digit 5 in 5,394,332?
   700       5000
Estimate Sums and Differences

Round to the greatest place value. Estimate the sum or difference.

1. $7,379 + 5,496$
2. $\$479,150 - $371,271$
3. $612,797 + 811,035$

4. $638,113 - 415,327$
5. $5,324 + 2,468$
6. $\$6,372 - $4,047$

7. $721,379 + 15,496$
8. $\$3,016 - $2,849$
9. $8,492 + 1,346$

10. $846,134 - 794,134$
11. $461,137 + 91,214$
12. $\$9,263 - $489$

Write the missing digit for the estimated sum or difference.

13. $\Box46,164 - 471,467$
14. $23,497 + \Box2,464$
15. $631,431 - \Box6,497$
16. $\Box79,431 + 231,587$

17. $\Box21,863 - 135,632$
18. $54,961 + \Box5,246$
19. $\Box45,239 - 32,878$
20. $58,138 + \Box3,245$

Mixed Review

Solve.

21. $27 + 49$
22. $31 + 64$
23. $92 + 11$
24. $87 + 34$
25. $16 + 77$
Use Mental Math Strategies

For 1–4, use the Break apart strategy.
1. 49 + 16
2. 73 – 43
3. 46 – 12
4. 91 – 63

For 5–8, use the Make a ten strategy.
5. 94 – 56
6. 88 + 31
7. 72 – 39
8. 84 + 46

For 9–28, add or subtract mentally. Tell the strategy you used.
9. 78 + 46
10. 61 – 16
11. 40 + 24
12. 37 – 19

13. 64 – 28
14. 45 + 48
15. 58 + 32
16. 67 + 43

17. 82 – 53
18. 66 – 27
19. 53 – 23
20. 75 + 61

21. 51 + 38
22. 49 + 21
23. 82 – 46
24. 49 – 31

25. 83 + 72
26. 28 – 19
27. 93 – 38
28. 26 + 23

Mixed Review

Round each number to the place given.
29. 568,303; ten thousand
30. 35,405,203; million
31. 596,305,003; ten million

Write the numbers in order from least to greatest.
32. 568,394; 395,205; 562,304
33. 458,404,305; 451,402,305; 455,305,203
Add and Subtract 4-Digit Numbers

Find the sum or difference. Estimate to check.

1. \[7,503 - 3,598\] \[2,178 + 3,703\] \[5,527 + 1,852\] \[3,092 + 1,296\]

2. \[1,468 + 1,090\] \[2,714 - 1,833\] \[2,131 - 1,574\] \[2,858 + 1,670\]

3. \[4,375 + 5,839\] \[5,707 - 2,596\] \[4,793 + 2,988\] \[3,872 + 2,396 + 7,236\]

4. \[5,6\square 7 - 3,684\] \[6,465 + 1,\square 68\] \[5,7023 + 1,820\] \[7,503 - 3,598\]

Find 13–20, find the missing digit.

13. \[7,13\square - 2,467\] \[4,135 + \square 252\] \[5,6\square 7 - 3,684\] \[6,465 + 1,\square 68\]

14. \[5,7023 + 1,820\] \[9,465 - 8,4\square 7\] \[\square 254 + 2,849\] \[6,102 - 4,58\square\]

15. \[2,178 + 3,703\] \[5,527 + 1,852\] \[3,092 + 1,296\] \[968 - 7,103\]

Mixed Review

21. \[10 + 10 + 10 + 10 = \] \[5 + 5 + 5 + 5 + 5 = \]

22. \[42 - 21 = \] \[63 - 12 = \]
Subtract Across Zeros

Find the difference. Estimate to check.

1. \[ \begin{array}{c}
3,000 \\
- 2,780 \\
\hline
\end{array} \]

2. \[ \begin{array}{c}
4,003 \\
- 2,232 \\
\hline
\end{array} \]

3. \[ \begin{array}{c}
8,005 \\
- 5,004 \\
\hline
\end{array} \]

4. \[ \begin{array}{c}
6,200 \\
- 4,816 \\
\hline
\end{array} \]

5. \[ \begin{array}{c}
5,700 \\
- 1,751 \\
\hline
\end{array} \]

6. \[ \begin{array}{c}
9,100 \\
- 3,759 \\
\hline
\end{array} \]

7. \[ \begin{array}{c}
20,000 \\
- 13,652 \\
\hline
\end{array} \]

8. \[ \begin{array}{c}
10,000 \\
- 2,842 \\
\hline
\end{array} \]

9. \[ \begin{array}{c}
90,000 \\
- 66,536 \\
\hline
\end{array} \]

10. \[ \begin{array}{c}
50,000 \\
- 13,747 \\
\hline
\end{array} \]

11. \[ \begin{array}{c}
20,000 \\
- 15,136 \\
\hline
\end{array} \]

12. \[ \begin{array}{c}
50,075 \\
- 32,097 \\
\hline
\end{array} \]

Compare. Write <, >, or = in each circle.

13. \[ 2,006 - 1,513 \quad \bigcirc \quad 4,075 - 3,209 \]

14. \[ 7,004 - 6,315 \quad \bigcirc \quad 5,075 - 4,897 \]

15. \[ 8,003 - 3,695 \quad \bigcirc \quad 7,473 - 2,127 \]

16. \[ 9,200 - 5,861 \quad \bigcirc \quad 6,153 - 2,814 \]

17. \[ 3,009 - 1,819 \quad \bigcirc \quad 8,006 - 6,952 \]

18. \[ 4,284 - 2,651 \quad \bigcirc \quad 9,000 - 7,367 \]

Mixed Skills

19. \[ 16,491 + 18,034 \]

20. \[ 79,403 + 20,199 \]

21. \[ 18,662 + 88,449 \]

22. \[ 57,361 + 29,170 \]
Add and Subtract Greater Numbers

Find the sum or difference. Estimate to check.

1. 213,742 
   + 170,045
2. 408,587 
   − 345,128
3. 248,232
   + 236,816 
4. 684,004 
   − 195,751

5. 661,119 
   − 423,384
6. 358,379 
   + 264,175
7. 568,075
   − 372,097
8. 468,951
   + 236,175

Compare. Write <, >, or = in each circle.

9. 561,257 − 346,052 
   846,735 − 612,435
10. 257,132 + 153,087 
    210,735 + 128,307
11. 976,034 − 780,347 
    461,597 − 265,910

Find the missing digit.

12. 4□6,341 
    − 275,132
13. 682,318 
    − 248,1□6
14. 945,132 
    + 153,□02
    1,098,734

Mixed Review

Estimate. Then find the exact sum or difference.

15. 6,842 
    + 2,981
16. 1,132 
    2,074
    + 2,596
17. 4,008 
    − 2,567

18. 6,921 − 4,071 = ____________ 
19. 3,460 − 782 = ____________
Estimate or Find Exact Answers

Tell whether an estimate or an exact answer is needed. Solve.

1. Mitchell bought a hat and a poster. How much change will he get from $20.00?

2. About how much money does someone need to buy one of each item?

3. Tracy wants to buy a t-shirt and a souvenir cup. If she has $15.00, does she have enough? Explain your answer.

4. Maurice had $15.00. He bought a hat. About how much money is left? Is it enough to buy a poster?

5. Tanisha and Shauna want to share the Animal Encyclopedia. Tanisha has $4.75 and Shauna has $3.25. How much more money do they need to buy the book?

6. D’Angelo wants to buy lunch for $5.75 and buy a poster and souvenir cup. About how much money should he bring to the zoo?

Mixed Review

7. $1.73
   + 0.14
   ___________

8. $10.00
   − 8.59
   ___________

9. 6,285
   − 3,119
   ___________

10. 16,212
    + 42,080
    ___________

11. $19.27
    + 11.27
    ___________
Expressions

Vocabulary

Complete the sentence.

1. _______________________________ tell which operation to do first.

2. An _______________________________ is a part of a number sentence that has numbers and operation signs, but no equal sign.

Tell what you would do first.

3. $4 + (8 - 2)$

4. $(16 - 9) + 3$

5. $28 + (5 - 2)$

Find the value of each expression.

6. $5 + (20 - 8)$

7. $25 - (6 + 11)$

8. $5 + (45 - 22)$

9. $55 + (22 - 9)$

10. $(33 - 17) + 14$

11. $(42 - 33) + 54$

12. $(13 + 15 + 9) - 22$

13. $45 - (22 + 6 + 3)$

14. $(3,827 - 1,294) + 6,782$

Mixed Review

15. $2,112 + 5,899$

16. $85,584 - 29,920$

17. $50,008 - 28,251$

18. $3,804 + 9,156$

19. $3,333 - 1,797$

20. $47,310 - 19,894$

21. $62,809 - 59,345$

22. $8,637 - 4,737$
Use Parentheses

Choose the expression that shows the given value. Write a or b.

1. 17
   a. \((15 - 2) + 4\)
   b. \(15 - (2 + 4)\)

2. 10
   a. \(16 - (8 + 2)\)
   b. \((16 - 8) + 2\)

3. 13
   a. \((72 - 18) + 41\)
   b. \(72 - (18 + 41)\)

Show where the parentheses should be placed to make the expression equal to the given value.

4. \(100 - 8 + 4; 96\)

5. \(25 - 4 + 8; 13\)

6. \(150 - 65 + 13; 72\)

7. \(56 - 24 - 13; 19\)

8. \(85 - 25 + 13; 73\)

9. \(150 - 25 + 37; 88\)

Find the number that gives the expression a value of 25.

10. \((15 - 7) + \square\)

11. \(50 - (45 - \square)\)

12. \((31 + \square) - 11\)

Mixed Review

13. \(19 - 8 = \square\)

14. \(6 + 7 = \square\)

15. \(12 - 9 = \square\)

16. \(11 + 8 = \square\)

17. \(13 - 6 = \square\)

18. \(3 + 9 = \square\)

19. \(62 + \square = 89\)

20. \(14 + \square = 33\)

21. \(72 - \square = 46\)

22. \(\square - 11 = 89\)

23. \(\square + 44 = 74\)

24. \(\square + 39 = 106\)
**Match Words and Expressions**

Choose the expression that matches the words.

1. There were 12 apples in the fruit bowl. Three were eaten and 6 more were added.
   a. $12 - (3 + 6)$
   b. $(12 - 3) + 6$

2. Emily had $22. She spent $6 at the mall and then earned $8 more.
   a. $(22 - 6) + 8$
   b. $22 - (6 + 8)$

3. The library has 86 biographies. 7 are checked out and 4 are discarded.
   a. $86 - (7 + 4)$
   b. $(86 - 7) + 4$

4. Riley had 50¢. She spent 10¢ at the store and played a video game for 25¢.
   a. $(50¢ - 10¢) + 25¢$
   b. $50¢ - (10¢ + 25¢)$

Write an expression for each. Solve.

5. There are 16 people at the Swim Club meeting. 5 people leave and 7 more people come.

6. Rob had 52 baseball cards. He gave 5 to Larry and 8 to Evan.

7. Kari had 10 workbook pages for homework. She did 3 after school and 5 after dinner.

8. Lisa earned $20 doing yardwork. She got a $3 tip and spent $12.

**Mixed Review**

9. $63,899 - 47,641$
   $= 46,258$

10. $389,290 + 92,911$
    $= 482,201$

11. $48,001 - 5,842$
    $= 42,159$

12. $493,722 + 105,069$
    $= 598,791$

13. $(27 + 3 + 9) - 15$
    $= 13$

14. $91 - (42 + 18 + 5)$
    $= 26$

15. $(6,963 - 280) + 7,118$
    $= 12,791$
Use Variables

Vocabulary

Complete the sentence.

1. A __________________________ is a letter which stands for any number.

2. A number sentence that states that two amounts are equal is an __________________________.

Write an expression. Choose a variable for the unknown.

3. Thomas had some money in his bank account. He withdrew $10.

4. There were 16 cans on the shelf. Some more cans were placed on the shelf.

5. At the assembly, there are 83 students and some teachers.

6. There are 8 campers in the pool. Some campers come out to have a snack.

Write an equation for each. Choose a variable for the unknown.

7. There are 26 students in Mrs. Philips’ class. 15 are boys. The rest are girls.

8. Arturo has 4 posters. He buys some more posters. Now he has 12 posters.

9. Mr. Tran has 45 students in gym class. 32 are playing volleyball. The rest are square dancing.

10. Christine adds 4 coins to her piggy bank. There are now 83 coins.

Mixed Review

Evaluate.

11. $3 + (20 - 12) = $12$

12. $(5 + 8) - (2 + 7) = 0$

13. $25 - (4 + 6) = 15$
Find a Rule
Find the rule. Write the rule as an equation.

1. 2. 3. 4.

Use the rule and equation to make an input/output table.

5. Add 8.
   \[ t + 8 = p \]
   \[
   \begin{array}{c|c}
   \text{Input} & \text{Output} \\
   \hline
   13 & 25 \\
   8 & 20 \\
   17 & 29 \\
   3 & 15 \\
   \end{array}
   \]

   \[ w - 3 = t \]
   \[
   \begin{array}{c|c}
   \text{Input} & \text{Output} \\
   \hline
   18 & 10 \\
   9 & 1 \\
   12 & 4 \\
   15 & 7 \\
   \end{array}
   \]

   \[ c + 14 = m \]
   \[
   \begin{array}{c|c}
   \text{Input} & \text{Output} \\
   \hline
   45 & 39 \\
   27 & 21 \\
   18 & 12 \\
   21 & 15 \\
   \end{array}
   \]

   \[ b - 28 = g \]
   \[
   \begin{array}{c|c}
   \text{Input} & \text{Output} \\
   \hline
   t & m \\
   13 & 25 \\
   8 & 20 \\
   17 & 29 \\
   3 & 15 \\
   \end{array}
   \]

   \[ g + 23 = y \]
   \[
   \begin{array}{c|c}
   \text{Input} & \text{Output} \\
   \hline
   \end{array}
   \]

10. Subtract 32.
    \[ m - 32 = w \]
    \[
    \begin{array}{c|c}
    \text{Input} & \text{Output} \\
    \hline
    \end{array}
    \]

    \[ x - 9 = b \]
    \[
    \begin{array}{c|c}
    \text{Input} & \text{Output} \\
    \hline
    \end{array}
    \]

    \[ t + 28 = r \]
    \[
    \begin{array}{c|c}
    \text{Input} & \text{Output} \\
    \hline
    \end{array}
    \]

Mixed Review
Round to the millions place.

13. 58,405,303
14. 492,920,302
15. 289,810,304

PW20 Practice
Equations

Tell whether the values on both sides of the equation are equal. Write yes or no. Explain.

1. 1 quarter = 2 dimes

2. 1 dime – 2 pennies =
   1 nickel + 3 pennies

3. 3 dimes and 2 nickels =
   40 pennies

4. 4 pennies and 1 quarter =
   3 dimes

5. 

   =

Complete to make the equation true.

7. 19 + 3 = _____ + 19

8. 12 + 4 = 6 + _____

9. 2 + 7 + _____ = 10 + 7

10. 15 + 6 = 7 + 7 + _____

11. 22 + 8 + 1 = 25 + _____

12. _____ + 5 = 10 + 3 + 1

Mixed Review

Evaluate.

13. (9 + 11) – (4 + 4) = ____  14. 72 – (41 + 6) = ____  15. 35 + (16 – 3) = ____

16. (49¢ – 22¢) + 17¢ = ____  17. (15 + 11) – 6 = ____  18. (11 – 6) + 15 = ____

Problem Solving Strategy

Make a Model

Make a model and solve.

There is a contest between the different grades at Memorial Elementary school. The contest lasts for two weeks. The first grade to collect 20 bags of recyclables wins a pizza party.

1. Students from Grade 2 brought in 4 bags then brought in 7 more bags. How many more bags do they need to win?

2. At the end of the contest, Grade 5 had collected 16 bags. If they collected 5 bags in Week 2, how many did they collect in Week 1?

3. Grades 1 and 3 have decided to work together. If Grade 1 brought in 12 bags and Grade 3 brought in 16 bags, how many do they have altogether?

4. If Grade 6 collects 9 bags of cans in week 1 and 8 bags in week 2, how many more do they have than Grade 2?

5. At the end of the contest, Grade 4 had collected 5 more bags than Grades 1 and 3 combined. How many bags of recyclables did Grade 4 collect?

6. How many more bags should Grade 2 collect so that they have the same number as Grades 1 and 3 combined?

Mixed Review

Use the rule and equation to make an input/output table.

7. Add 6.  \( x + 6 = z \)

8. Subtract 31.  \( m - 31 = r \)

9. Add 19.  \( p + 19 = s \)

10. Subtract 25.  \( c - 25 = a \)

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
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<tbody>
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</tbody>
</table>

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Collect and Organize Data

Vocabulary

Complete the sentence.

1. The numbers in the ____________________________ column show the sum as each new line of data is entered.

For 2–3, use the frequency table.

<table>
<thead>
<tr>
<th>FROZEN POPS SOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
</tr>
<tr>
<td>Monday</td>
</tr>
<tr>
<td>Tuesday</td>
</tr>
<tr>
<td>Wednesday</td>
</tr>
<tr>
<td>Thursday</td>
</tr>
<tr>
<td>Friday</td>
</tr>
</tbody>
</table>

2. The cumulative frequency for Wednesday is __________.
   This is the sum of the numbers in the frequency column for which days?
   ____________________________, ____________________________, and ____________________________.

3. How many frozen pops in all were sold on Monday and Tuesday?

Mixed Review

Order the numbers from greatest to least.

4. 234,358; 23,208; 23,098

5. 12,214; 342,351; 120,142

6. 342,253; 34,235; 34,270

7. 824,723; 8,247; 82,492
Find Median and Mode

**Vocabulary**

Complete the sentence.

1. In a group of numbers ordered from the least to the greatest, the number in the middle is called the ________, and the number that occurs most often is called the ________.

For 2–5, use the table.

2. List all of the ages of all the swim team members, from least to greatest.

3. Use your list from problem 1. What is the median age of the swim team members?

4. What is the mode of the ages of the swim team members?

5. What if there was a new swimmer added to the table. Her age is 10. Would that change the mode? Explain.

**Mixed Review**

Round each number to the nearest 100.

6. 56,298 __________ 7. 355,207 __________ 8. 514,899 __________

9. 29,909 __________ 10. 17,923 __________ 11. 99,903 __________

Find \( n \).

12. \( 4 \times n = 9 + 3 \) __________ 13. \( n \times 5 = 20 + 5 \) __________

14. \( 8 + n = 10 + 6 \) __________ 15. \( 5 \times n = 2 \times 10 \) __________

16. \( 6 + 5 = 9 + n \) __________ 17. \( 8 \times 2 = n + 9 \) __________

18. \( 4 \times n = 11 + 1 \) __________ 19. \( n + 7 = 19 + 12 \) __________
Line Plot

Vocabulary

Complete the sentences.

1. A ___________ is a graph that shows data along a number line.

2. The difference between the greatest and the least numbers in a set of data is called the ____________.

For 3–4, use the line plot at right.

3. The X’s on this line plot represent the number of students. What do the numbers on the line plot represent?

4. What number of children do more students have in their families?

5. Use the data in the table to complete the line plot.

Mixed Review

Write each number in standard form.

6. 100,000 + 50,000 + 4,000

7. ninety-six thousand

8. Nine hundred seventy thousand eight hundred fifty-two

9. 400,000 + 80 + 8
**Stem-and-Leaf Plot**

**Vocabulary**

Complete the sentences.

1. A ______________________ shows groups of data organized by place value.
2. Each tens digit is called a ________________.
3. The ones digits are called the ________________.

The stem-and-leaf plot below shows the scores that fourth-grade students made in a spelling contest. For 4–6, use the stem-and-leaf plot.

4. What are the least and the greatest scores?

5. What is the mode of the contest scores?

6. What is the median of the contest scores?

Mixed Review

Find $n$.

7. $5 \times 6 = n$ ______ 8. $9 \times 4 = n$ ______ 9. $6 \times 9 = n$ ______
10. $n - 3 = 4$ ______ 11. $7 + 12 = n$ ______ 12. $63 \div n = 9$ ______
13. $10 + n = 13$ ______ 14. $7 \times n = 56$ ______ 15. $8 \times n = 64$ ______
16. Round 39,457 to the nearest 10,000.

17. Ted bought eggs for $1.98, milk for $2.19, and bread for $1.10. What change should he receive from $10.00? ________________
Compare Graphs

Vocabulary

Complete the sentence.

1. The ________________ is the series of numbers placed at fixed distances on the side of a graph.

2. The ________________ of a scale is the difference between any two numbers.

For 3–6, use the graph.

3. What is the interval of the scale in the graph?

__________________________

4. How would the bars change in the graph if the interval were 1?

__________________________

5. Describe how the bars in the graph would look if you made a new graph, using a scale interval of 10.

__________________________

6. Suppose the scale of a bar graph is 0, 4, 8, 12, 16, 20. Describe the bar length that would represent the number 10.

__________________________

Mixed Review

7. $55 + 23$ _____ 8. $44 - 23$ _____ 9. $12 + 34$ _____ 10. $87 + 12$ _____
11. $5 \times 6$ _____ 12. $72 \div 9$ _____ 13. $12 \times 12$ _____ 14. $45 \div 5$ _____

15. A baker can make 8 batches of cookies an hour. How many batches of cookies can the baker make in 7 hours?

__________________________

16. Kim has a scarf. It has a red stripe, a blue stripe, and a white stripe. This pattern repeats. What color is the eighth stripe?

__________________________
Problem Solving Strategy

Make a Graph

Vocabulary

Complete the sentences.

1. We can use a ____________ to help see information more easily.
2. Two types of graphs or plots are: __________________________
   __________________________

For 3–5, use the following data.

Students recorded how many servings of fruit they ate in one day. The answers were: 1, 1, 1, 2, 2, 2, 2, 3, 3, 4, 4, 4, 4, 5.

3. Make a table to show the data.

<table>
<thead>
<tr>
<th>Number of Servings</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

4. Make a bar graph to show the data.

5. Make a line plot to show the data.

Mixed Review

6. Find the mode of these numbers: 14, 14, 15, 16, 18, 18, 18, 20, 22. ______________

7. $12.75 + $13.22 ______________

8. $34 \times 3$ ______________
Double-Bar Graphs

Vocabulary

Complete the sentence.

1. A ________________ is used to compare similar kinds of data.

<table>
<thead>
<tr>
<th>Bulbs (per package of 25)</th>
<th>Kevin’s Flowers</th>
<th>Hillside Nursery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daffodil</td>
<td>$18.00</td>
<td>$14.00</td>
</tr>
<tr>
<td>Tulip</td>
<td>$10.00</td>
<td>$12.00</td>
</tr>
<tr>
<td>Hyacinth</td>
<td>$21.00</td>
<td>$12.00</td>
</tr>
<tr>
<td>Crocus</td>
<td>$5.00</td>
<td>$7.00</td>
</tr>
</tbody>
</table>

2. Make a double-bar graph to compare the cost of bulbs at Kevin’s Flowers and at Hillside Nursery. Use the data from the table above. Choose an appropriate scale. Include a title, labels, a scale, and a key for both stores.

Mixed Review

3. Which is greater, 420,391 or 402,931?

4. Round 225,770 to the nearest thousand.

5. Estimate 893,232 + 281,932

6. What is the sum of 259,739 and 927,492?
Read Line Graphs

Vocabulary

Complete the sentence.

1. A ___________ uses a line to show how something changes over a period of time.

Joyce made this line graph to show the number of pages she read each day in a mystery book. For 2–5, use the graph.

2. On what day did Joyce read the most pages? the fewest pages?

3. How many pages did Joyce read on Thursday?

4. On which two days did Joyce read the same number of pages?

5. How many more pages did Joyce read on Friday than on Monday?

6. How many pages did Joyce read all together from Monday through Friday?

Mixed Review

7. \(35,859\)
   + \(91,847\)

8. \(680,005\)
   − \(490,948\)

9. \(5,940,394\)
   − \(2,518,624\)

10. \(9,848,664\)
    + \(8,842,231\)

11. \(762,063\)
    − \(410,978\)

12. \(248,671\)
    + \(99,348\)

13. \(7,100,003\)
    − \(6,471,691\)

14. \(8,317,062\)
    + \(4,065,594\)
Make Line Graphs

For 1–2, make a line graph.

1. **Daily Temperature**

<table>
<thead>
<tr>
<th>Day</th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
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<tbody>
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<td>70</td>
<td>85</td>
<td>75</td>
<td>70</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

2. **Number of Touchdowns**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Touchdowns</td>
<td>10</td>
<td>12</td>
<td>9</td>
<td>15</td>
<td>18</td>
</tr>
</tbody>
</table>

3. Which day had the highest temperature? What was the temperature on that day?

4. Describe any trends in the number of touchdowns scored.

Mixed Review

5. Compare. Use <, > or =.

\[7,458 \bigcirc (8,125 - 304)\]

6. Find 100,000 more than 1,825,435.
Choose an Appropriate Graph

For 1–4, write the kind of graph or plot you would choose.

1. to show a record of a baby’s weight for six months
2. to show how many bicycles were sold each month at a store
3. to find the median age of the teachers at a school
4. to compare the favorite sports of boys and girls in your class

Explain why each graph or plot is not the best choice for the data it shows. Tell which type of graph or plot would be a better choice.

5. DAILY HIGH TEMPERATURES FOR SEPT. 15–21

6. FAVORITE GAMES AT RECESS

Mixed Review

Complete to make the equation true.

7. 15 + 4 = ____ + 10
8. ____ + 8 = 13 + 4
9. 11 + ____ = 20 + 15

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Problem Solving Skill

Draw Conclusions

For 1–7, use the graph.

The parents of Mrs. Watkins’ fourth grade students wanted to compare their favorite music choices for the Academic Dinner. Mr. Kennedy took a survey and made a double-bar graph.

1. What is the favorite music choice for men?

2. What is the favorite music choice for women?

3. How many men prefer to have rock and roll at the banquet?

4. How many of the women prefer classical music?

5. Which type of music is preferred equally by the men and women?

6. How many men were surveyed altogether? women?

7. Is it reasonable to conclude that the parents chose folk music for the Academic Dinner? Explain.

Mixed Review

8. Find 100,000 more than 3,489,234.

9. Round 355,790 to the nearest thousand.

10. Estimate 390,645 + 71,960

11. Estimate 495,931 + 889,853
Before and After the Hour

Write the time as shown on a digital clock.

1. 7 minutes after 3
2. 28 minutes before 11
3. 15 minutes after 5
4. 18 minutes after 2
5. 3 minutes after 12
6. 15 minutes before 7

Write the time shown on the clock in 2 different ways.

7. 8. 9.

Write the letter of the unit used to measure the time. Use each answer only once.

10. to take a shower
11. to drive across the United States
12. to button a button
13. to get a night’s sleep

Mixed Review

14. Evaluate $59 - (32 + 12)$
15. Evaluate $(28 - 9) - (4 + 8)$

16. Order from least to greatest:
   $37,623; 37,326; 36,723$

17. Estimate the difference between 47,791 and 35,167.
A.M. and P.M.

Vocabulary

Complete.

1. _______ means “before noon.”
2. _______ means “after noon.”

Write the time, using A.M. or P.M.

3. when the sun rises
4. when you eat dinner
5. when school starts

__________________________  ________________  _______________

6. when the gas station closes
7. when you eat breakfast
8. when the mall opens

__________________________  ________________  _______________

Write A.M. or P.M.

9. Marty has a doctor’s appointment at 11:15 _______

10. Ron is going shopping from 3 _______ to 5 _______

11. Marci is baby-sitting at 9:30 Saturday morning. _______

12. Juan’s shift begins at 4:45 in the afternoon. _______

Mixed Review

Evaluate 13–14.

13. 45 + (16 − 8) ______

14. 73 − (36 + 23) ______

15. Manuela has 2 one dollar bills, 5 quarters, 8 dimes, a nickel and 3 pennies. How much money does she have?

__________________________

16. Write five million, six hundred thirty thousand, eight hundred ninety-two in standard form.

__________________________
Elapsed Time

Vocabulary

Complete the sentence.

1. _____________________ is the time that passes from the start of an activity to the end of that activity.

Find the elapsed time.

2. start: 7:30 A.M.  end: 3:30 P.M.
3. start: 8:05 A.M.  end: 9:55 A.M.
4. start: 9:12 P.M.  end: 11:28 P.M.

Complete the table.

<table>
<thead>
<tr>
<th>Start Time</th>
<th>End Time</th>
<th>Elapsed Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. 7:20 A.M.</td>
<td></td>
<td>1 hr 30 min</td>
</tr>
<tr>
<td>6. 10:12 A.M.</td>
<td>4:15 P.M.</td>
<td></td>
</tr>
</tbody>
</table>

For 7–8, use the tour schedule.

7. At about what time does each tour end?

8. The Gutierrez family is seeing a Broadway show at 5:30 P.M. Which tour(s) can they take?

Mixed Review

Add or Subtract.

9. 455,967 + 396,128
10. 320,051 − 198,489
11. 4,938,920 − 9,938,593
Problem Solving Skill

Sequence Information

Mr. Anderson is taking his history class to the local history museum, where the students want to take a tour, view two movies, have lunch, and visit the costume room. The bus will drop the class off at 9:15 A.M. and lunch will be at 12:15 P.M. Tours of the museum start about every 5 minutes and can be for either 40 minutes or for 1 hour and 15 minutes.

1. Is there a way for the class to see both movies before lunch? If so, name a schedule.

2. If the class begins the longer museum tour at 9:40, will it be able to see Revolutionary Heroes and still be ready for lunch at 12:15? Explain.

3. If the class visits the costume room at 1:45 and stays for one hour and 10 minutes, can it view Revolutionary Heroes and be ready to meet the bus at 3:30 P.M.?

4. Make a schedule for the class which includes both movies, a tour of the museum, and a visit to the costume room.

Mixed Review

5. 370,716
   − 192,408

6. 971,858
   − 863,245

7. 4,330,629
   + 6,197,550

8. 3,606,117
   − 3,432,980
Elapsed Time on a Calendar

For 1–3, use the calendars.

1. The camp director bought art supplies 4 weeks before the beginning of the first session of camp. On what date did she buy art supplies?

2. In Session 3, the campers put on a puppet show on the second Wednesday of the session. What was the date of the puppet show?

3. Jim plans to attend Session 2 of camp. His last day of school is June 19. About how many weeks of summer vacation will Jim have before camp begins?

Mixed Review

Evaluate.

4. $125 - (65 + 22)$

5. $234 - (24 - 13)$

6. $4,590 - (1,293 - 389)$

Round to the nearest ten thousand.

7. $472,099$

8. $939,658$

9. $3,514,811$
Relate Multiplication and Division

Find the value of the variable. Write a related equation.

1. \(21 \div 3 = t\)  
2. \(5 \times 5 = c\)  
3. \(16 \div 2 = a\)  
4. \(18 \div 6 = d\)

5. \(54 \div 9 = k\)  
6. \(4 \times 4 = b\)  
7. \(6 \times 2 = f\)  
8. \(35 \div 7 = h\)

9. \(8 \div n = 2\)  
10. \(4 \times p = 24\)  
11. \(30 \div z = 6\)  
12. \(6 \times j = 48\)

13. \(l \div 7 = 8\)  
14. \(y \div 1 = 6\)  
15. \(k \times 6 = 42\)  
16. \(n \times 7 = 63\)

Write the fact family for each set of numbers.

17. 3, 4, 12  
18. 4, 7, 28

19. 5, 10, 50  
20. 8, 9, 72

Mixed Review

21. \$11.21 \quad 22. \ 1,242,316 \quad 23. \ 6,548,957 \quad 24. \ $15.27

\$12.15 \quad - \ 164,320 \quad 3,847,200 \quad \$7.99

\$1.61 \quad + \ 9,874,512 \quad \$3.25

25. \(8 \times 8\)  
26. \(9 \times 4\)  
27. \(6 \times 7\)  
28. \(3 \times 5\)  
29. \(7 \times 8\)
Multiply and Divide Facts Through 5

Find a related multiplication or division equation.

1. $2 \times 4 = 8$

2. $2 \times 5 = 10$

3. $2 \times 2 = 4$

4. $4 \times 1 = 4$

Find the product or quotient.

5. $6 \times 2$

6. $21 \div 7$

7. $9 \times 5$

8. $28 \div 4$

9. $8 \times 3$

10. $24 \div 6$

11. $18 \div 2$

12. $5 \times 8$

Find the value of the variable.

13. $7 \times 2 = 14$, so $(7 \times 2) + 10 = r$

14. $(36 \div 4) = 9$, so $(36 \div 4) \times 5 = m$

Write $<$, $>$ or $=$ for each $\bigcirc$.

15. $27 \div 3 \bigcirc 2 \times 4$

16. $32 \div 4 \bigcirc 3 \times 3$

Mixed Review

17. Evaluate. $(22 - 6) + 38$

18. In the number 1,257,873 what digit is in the ten-thousands place?
Multiply and Divide Facts Through 10

Show how the arrays can be used to find the product.

1. What is $7 \times 8$?
   
   $7 \times 4 = \underline{}$
   
   $7 \times 4 = \underline{}$
   
   So, $7 \times 8 = \underline{}$

2. What is $6 \times 8$?
   
   $6 \times 4 = \underline{}$
   
   $6 \times 4 = \underline{}$
   
   So, $6 \times 8 = \underline{}$

Find the product or quotient. Show the strategy you used.

3. $6 \times 6$
   
   $\underline{}$

4. $56 \div 7$
   
   $\underline{}$

5. $8 \times 5$
   
   $\underline{}$

6. $36 \div 4$
   
   $\underline{}$

7. $10 \times 6$
   
   $\underline{}$

8. $72 \div 8$
   
   $\underline{}$

9. $9 \times 7$
   
   $\underline{}$

10. $56 \div 8$
    
    $\underline{}$

11. $8 \times 6$
    
    $\underline{}$

12. $42 \div 6$
    
    $\underline{}$

13. $90 \div 9$
    
    $\underline{}$

14. $9 \times 9$
    
    $\underline{}$

15. $7 \times 6$
    
    $\underline{}$

16. $8 \times 9$
    
    $\underline{}$

17. $49 \div 7$
    
    $\underline{}$

18. $54 \div 9$
    
    $\underline{}$

Mixed Review

19. In the number 125,588,325 what digit is in the ten millions place?

20. Find the elapsed time:
    Start: 7:54 A.M. End: 9:12 P.M.


22. Round 13.567 to the nearest hundredth

23. Write an expression using the variable $n$. There were 9 pears in the bowl. Jenny took some out.

24. Write an equation using the variable $p$. Robin had some pens. She gave Ben 6 and now has 12.
## Multiplication Table Through 12

Use the multiplication table to find the product or quotient.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>0</td>
<td>1</td>
<td>2</td>
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<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>21</td>
<td>24</td>
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<td>30</td>
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<td>36</td>
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1. $40 \div 4$  
2. $5 \times 10$  
3. $70 \div 10$  
4. $110 \div 10$  
5. $11 \div 1$  
6. $10 \times 8$  
7. $12 \times 12$  
8. $66 \div 11$  
9. $7 \times 12$  
10. $108 \div 9$  
11. $11 \times 5$  
12. $36 \div 3$

Find the value of the variable.

13. $30 \div 10 = t$  
14. $121 \div y = 11$  
15. $80 \div 8 = h$  
16. $n \times 12 = 48$  
17. $k \times 11 = 132$  
18. $10 \times p = 100$  
19. $72 \div z = 6$  
20. $11 \times j = 99$

## Mixed Review

21. $63 + $48 + $122$  
22. Write one thousand eighty five in standard form.
23. In 7,894,132, what digit is in the ten thousands place?  
24. Round to the tens place. 639.47
25. Find the median  
   15, 18, 22, 11, 20, 20, 13
26. Find the mode.  
   15, 18, 22, 11, 20, 20, 13
27. $(14 - 8) + 17 = \_\_\_$  
28. $36 - (3 + 9) = \_\_\_\_\_$  
29. $(17 - 6) + (42 - 17) = \_\_\_\_\_\_\_$
Multiply 3 Factors

Find each product.

1. \(3 \times (2 \times 4)\)  
2. \(10 \times (2 \times 6)\)  
3. \((6 \times 5) \times 0\)  
4. \(8 \times (2 \times 6)\)  
5. \(8 \times (1 \times 7)\)  
6. \(6 \times (3 \times 2)\)  
7. \((2 \times 6) \times 2\)  
8. \((4 \times 3) \times 9\)  
9. \((3 \times 4) \times 9\)  
10. \((3 \times 4) \times 4\)  
11. \((3 \times 3) \times 3\)  
12. \(10 \times (5 \times 2)\)

Show two ways to group by using parentheses. Find each product.

13. \(11 \times 1 \times 5\)  
14. \(4 \times 2 \times 6\)  
15. \(2 \times 6 \times 1\)  
16. \(2 \times 4 \times 3\)  

Write <, > or = for each \(\bigcirc\).

17. \((1 \times 9) \times 6 \bigcirc 3 \times (6 \times 2)\)  
18. \((6 \times 2) \times 3 \bigcirc 4 \times (3 \times 3)\)  
19. \(3 \times 4 \times 3 \bigcirc 9 \times 2 \times 2\)  
20. \((6 \times 2) \times 6 \bigcirc 11 \times (4 \times 3)\)

Mixed Review

21. In the number 25,327, what digit is in the thousands place?  
22. Round the number 8,569 to the hundreds place.  
23. \((7,321 - 1,435) + 2,600\)  
24. \((4,828 + 179) - 3,990\)
Problem Solving Skill

Choose the Operation

Solve. Name the operation or operations you used.

1. Kate sold 21 boxes of cookies. Randy sold 32 boxes of cookies. Gina sold 49 boxes of cookies. How many boxes did they sell?

2. Behind home plate there are 5 rows of seats. Each row has 7 seats in it. How many seats are in this section?

3. In the pottery classroom there were 3 tables. There were 6 people at each table. Each person made 2 clay animals. How many clay animals were made?

4. The fine for an overdue book at the Cotter Library is 5¢ a day. Tyler returned his books 1 day late. He paid a 30¢ fine. How many books did he return?

5. Ashley, Suzanne and Liz bought a box of chocolates. There are 36 chocolates in the box. How many do they get each?

6. Clyde sleeps 8 hours each night. How many hours does he sleep each week?

7. On Tuesday morning, Mrs. Corbett drove 57 miles to Princeton. Then she drove to Natick. She drove a total of 90 miles. How many miles was it from Princeton to Natick?

8. Peter took a three-day 28-mile backpacking trip. He hiked 9 miles the first day and 11 miles the second day. How many miles did he hike the third day?

Mixed Review

9. Find the median.
   546, 550, 420, 410, 560, 530, 530

10. Find the mode.
    546, 550, 420, 410, 560, 530, 530

11. In the number 12,482 what digit is in the tens place?

12. How much time is there between 9:27 A.M. and 6:32 P.M.?
Expressions with Parentheses

Find the value of the expression.

1. \((49 - 22) \div 3\)  
2. \(88 - (12 \times 4)\)  
3. \(14 + (6 \times 9)\)  
4. \(123 - (45 \div 5)\)

5. \((42 \div 7) \times 8\)  
6. \(3 \times (4 + 8)\)  
7. \((55 - 35) \div 5\)  
8. \(55 - (35 \div 5)\)

9. \(34 + (27 \div 9)\)
10. \(36 \div (4 + 5)\)
11. \(155 - (81 \div 9)\)
12. \(7 \times (25 \div 5)\)

Choose the expression that shows the given value.

13. 55  
14. 70  
15. 8

a. \((9 \times 6) + 1\)  
b. \(9 \times (6 + 1)\)  

a. \(7 \times (3 + 7)\)  
b. \((7 \times 3) + 7\)

Find the value of each expression.

16. \((243 - 124) - (4 \times 5)\)

17. \((15 \div 3) \times (22 - 14)\)

18. \((14 \div 2) \times (44 - 33)\)

19. \((7 \times 4) + (18 \div 2)\)

Mixed Review

Solve.

20. \(9 \times 6\)
21. \(5 \times 12\)
22. \(7 \times 8\)
23. \(10 \times 6\)
24. \(5 \times 8\)

25. \(12 \times 7\)
26. \(4 \times 11\)
27. \(9 \times 5\)
28. \(8 \times 8\)
29. \(6 \times 7\)
Match Words and Expressions

Choose the expression that matches the words.

1. Ali had $9 and then worked 3 hours for $6 per hour.
   a. \((9 + 3) \times 6\)
   b. \(9 + (3 \times 6)\)

2. Jane had 57¢. She lost 2 dimes.
   a. \((57 - 2) \times 10\)
   b. \(57 - (2 \times 10)\)

3. Larry had 12 books. Eleven of the books had 10 pages each. The twelfth book had 15 pages.
   a. \((10 \times 11) + 15\)
   b. \(10 \times (11 + 15)\)

4. Rashid had 16 pens. Nine were broken, then Rashid doubled those that were left.
   a. \((16 - 9) \times 2\)
   b. \(16 - (9 \times 2)\)

5. Jeff bought 5 models which each cost $7. He paid $2 in sales tax.
   a. \((5 \times 2) + 7\)
   b. \((5 \times 7) + 2\)

6. Mr. Gibson’s band room has 8 rows of 6 chairs each. There are also 3 chairs not in rows.
   a. \((8 \times 6) + 3\)
   b. \((3 \times 6) + 8\)

7. Eloise planted 6 rows of chrysanthemums with 5 plants in each row. She put 3 more plants in another row.
   a. \((6 \times 5) + 3\)
   b. \(6 \times (5 + 3)\)

8. Joel built 3 birdhouses each day for a week and then the dog knocked over and broke 2 of the birdhouses.
   a. \((3 \times 2) - 7\)
   b. \((3 \times 7) - 2\)

Mixed Review

Evaluate.

9. \((5 + 6) - (3 + 4)\)
   10. \(15 - (27 - 14)\)
   11. \((2 \times 6) \div 4\)

12. \(4 \times 3 \times 7\)
   13. \(6 \times 6 \times 2\)
   14. \(4 \times 9 \times 1\)

15. \(9,002 \quad -8,008\)
   16. \(7,958 \quad -1,798\)
   17. \(4,621 \quad +3,299\)
Multiply Equals by Equals

Multiply both sides by the given number. Find the new value.

1. 4 pennies = 4 pennies; multiply both sides by 7.
   2. 2 dimes = 2 dimes; multiply both sides by 3.

3. 1 nickel = 5 pennies; multiply both sides by 7.
   4. 3 nickels = 1 dime 1 nickel; multiply both sides by 3.

5. \((4 + 2) = (3 \times 2)\); multiply both sides by 7.
   6. \((6 + 3) = (3 \times 3)\); multiply both sides by 8.

7. \(12 = 6 \times 2\); multiply both sides by 6.
   8. \((3 + 5) = (64 \div 8)\); multiply both sides by 5.

9. \(10 = 5 \times 2\); multiply both sides by 9.
   10. \((6 + 5) = (11 \times 1)\); multiply both sides by 10.

11. \((2 + 3) = (15 \div 3)\); multiply both sides by 6.
    12. 1 dime 2 pennies = 12 pennies; multiply both sides by 3.

Mixed Review

Name the place value of the bold digit.

13. \(1,672,439\)  
14. \(1,672,439\)  
15. \(1,672,439\)  
16. \(1,672,439\)

Solve.

17. \(\$719.20 \ + \ 48.44\)  
18. \(2,209 \ - \ 1,072\)  
19. \(4,476 \ + \ 4,467\)  
20. \(\$32.99 \ - \ 12.81\)
Expressions with Variables

Find the value of the expression.

1. \(6 \times z\) if \(z = 8\)  
2. \(5 \times s\) if \(s = 4\)  
3. \(8 \times t\) if \(t = 9\)  
4. \(7 \times u\) if \(u = 4\)  
5. \(8 \div y\) if \(y = 2\)  
6. \(21 \div a\) if \(a = 3\)  
7. \(54 \div x\) if \(x = 9\)  
8. \(120 \div b\) if \(b = 10\)

Choose the expression that matches the words.

9. 3 times the number of people in a room, \(p\)  
   a. \(p - 3\)  
   b. \(3 \times p\)  

10. $12 divided by a number of people, \(p\)  
    a. \(p \div 12\)  
    b. \(12 \div p\)  

11. 8 times the number of shelves in the library, \(s\)  
    a. \(s \times 8\)  
    b. \(s + 8\)  

12. 15 sweaters divided by a number of children, \(c\)  
    a. \(15 - c\)  
    b. \(15 \div c\)

Write an expression that matches the words.

13. 24 players divided by a number of teams, \(t\)

14. 12 times the number of pages in a book, \(p\)

15. a number of cartons, \(c\), times 8 packets

16. a number of marbles, \(m\), divided by 5 bags

Mixed Review

Solve.

17. \[
\begin{array}{c}
5,203 \\
-3,999 \\
\hline
1,204
\end{array}
\]  
18. \[
\begin{array}{c}
1,364 \\
-5,202 \\
\hline
-3,838
\end{array}
\]  
19. \[
\begin{array}{c}
8,714 \\
-7,961 \\
\hline
753
\end{array}
\]

20. Find the median and the mode of the following set of numbers: 5, 4, 7, 6, 3, 6, 8, 5, 6

21. Write an expression. Ellen painted 5 pictures. She threw 1 out and painted 3 more.
Equations with Variables

Choose the equation that matches the words.

1. The number of dollars, \( d \), divided evenly by 6 people is 4.
   - a. \( d ÷ 4 = 6 \)
   - b. \( d ÷ 6 = 4 \)
   - c. \( 6 ÷ 4 = d \)
   - d. \( 4 ÷ 6 = d \)

2. The number of plants, \( p \), on 8 shelves is 32.
   - a. \( p ÷ 8 = 32 \)
   - b. \( 8 ÷ p = 32 \)
   - c. \( p × 8 = 32 \)
   - d. \( 32 ÷ p = 8 \)

Write an equation for each. Choose a variable for the unknown. Tell what the variable represents.

3. 6 bicycles in each of 6 rows is the total number of bicycles.
   ___________________________

4. Some number of plants in each of 7 rows is 84 plants.
   ___________________________

5. 12 ounces of water in each of a number of bottles is 60 ounces of water.
   ___________________________

6. 72 marbles divided evenly among 8 bags is some number of marbles in each bag.
   ___________________________

7. A number of pencils divided equally among 5 boxes is 9 pencils in each box.
   ___________________________

8. 25 books divided evenly among some number of students is 5 books per student.
   ___________________________

Mixed Review

Solve.

9. Round 1,793,445 to the nearest million.
   ___________________________

10. Round 1,428,739 to the nearest hundred thousand.
    ___________________________

11. \( 12 × 9 = n \)
    ___________________________

12. \( 144 ÷ 12 = n \)
    ___________________________

13. \( 90 ÷ h = 9 \)
    ___________________________
Find a Rule

Find the rule. Write the rule as an equation.

1. 2. 3. 4.

Use the rule and the equation to make an input/output table.

   \[ a \times 2 = c \] \[ r \div 3 = s \] \[ p \times 11 = q \] \[ y \div 4 = z \]

Mixed Review

Solve.

9. \[ 12 \times 8 = n \] 10. \[ 99 \div 11 = n \] 11. \[ 5,789 + 2,377 \]

12. Evaluate. \[ 63 - (14 \div 7) \]

13. What time is 2 hours and 40 minutes after 11:22 A.M.?

14. Write the standard form for three hundred thousand, five.
Problem Solving Strategy

Work Backward

Write an equation and work backward to solve.

1. Alexander had some nickels in his bank. He added 3 dimes to the bank and then he had 85¢. How many nickels did Alexander have?

2. Roz is making a quilt. Yesterday she sewed some squares. Today she sewed together rows with 10 squares each. She has sewn a total of 50 squares. How many squares did Roz sew yesterday?

Work backward to solve.

3. Leo folds a sheet of paper in half a certain number of times. When unfolded, if the sheet is divided into 8 sections, how many times did Leo fold the paper in half?

4. Ann is setting a clock. It says 12:00 P.M. She moves the minute hand forward 10 minutes, back 12 minutes, forward 8 minutes, and back some minutes. If the time now reads 12:03 P.M., what was her final move?

5. Holly is going from her home to the grocery store. To get to the store, she walks 3 blocks west and 2 blocks south. When she leaves the store, she walks 3 blocks east. How many blocks and in what direction should Holly walk to get home?

6. Amy and Tim are playing a counting game. They are counting to 30. Amy claps when they say a number that can be divided by 3. Tim claps when they say a number that can be divided by 4. On what numbers do they both clap?

Mixed Review

Solve.

7. \(3 \times 8\)

8. \(9 \times 4\)

9. \(9 \times 9\)

10. \(12 \times 6\)

11. \(12 \times 10\)
Mental Math: Multiplication Patterns

Use a basic fact and patterns to write each product.

1. a. 5 × 50  
   b. 5 × 500
2. a. 9 × 80  
   b. 9 × 800
3. a. 2 × 3,000  
   b. 2 × 30,000

4. a. 9 × 20  
   b. 9 × 200
5. a. 7 × 9,000  
   b. 7 × 90,000
6. a. 4 × 4,000  
   b. 4 × 40,000

Multiply mentally. Write the basic multiplication fact and the product.

7. 5 × 700
8. 9 × 400
9. 9 × 900

10. 4 × 500
11. 3 × 4,000
12. 8 × 3,000

Find the value of \( n \).

13. 6 × 40,000 = n
14. \( n = 3 \times 600 \)
15. \( n \times 500 = 3,500 \)

16. 3 × \( n = 15,000 \)
17. \( n \times 8 = 640 \)
18. 7 × \( n = 42,000 \)

19. 7,000 × \( n = 49,000 \)
20. 6 × \( n = 5,400 \)
21. \( n \times 6 = 1,800 \)

Mixed Review

22. Write the time in words.

23. Write the time in words.

\[ \begin{array}{c}
1:25:07 \\
5:52
\end{array} \]
Estimate Products

Round one factor. Estimate the product.

1. \( 512 \times 5 \)  
2. \( 93 \times 8 \)  
3. \( 1,401 \times 7 \)  
4. \( 257 \times 3 \)  

5. \( 981 \times 7 \)  
6. \( 82 \times 4 \)  
7. \( 127 \times 9 \)  
8. \( 741 \times 9 \)  

9. \( $15.34 \times 7 \)  
10. \( 903 \times 4 \)  
11. \( 95 \times 9 \)  
12. \( 718 \times 3 \)  

13. \( 1,209 \times 8 \)  
14. \( 657 \times 3 \)  
15. \( 55 \times 2 \)  
16. \( 9,099 \times 4 \)  

Choose two factors from the box for each estimated product.

\[ \begin{array}{ccc} 
\square \times \Delta = 2,100 & \square \times \Delta = 800 & \square \times \Delta = 1,200 \\
17. & & 18. \\
\square \times \Delta = 900 & \square \times \Delta = 2,400 & \square \times \Delta = 5,600 \\
19. & & 20. \\
\square \times \Delta = 1,200 & & 21. \\
21. & & 22. \\
\end{array} \]  

Mixed Review

23. Place in order from least to greatest: 1.82; 1.28; 1.028; 1.082  
24. Round 194,012 to the nearest ten–thousand.

25. Jeremy calculated the expression \( 15 - (7 \times 2) \) to be 16. Describe his error.  
26. The cost of a pizza is $12.00. If four people are to share the cost equally, how much should each pay?
Model Multiplication

Use base-ten blocks to multiply. Record the product.

1. $5 \times 503$
2. $4 \times 108$
3. $4 \times 122$
4. $3 \times 206$

5. $3 \times 211$
6. $4 \times 127$
7. $2 \times 514$
8. $3 \times 324$

Multiply. You may wish to use base-ten blocks.

9. $4 \times 305$
10. $2 \times 108$
11. $3 \times 212$
12. $4 \times 211$

13. $2 \times 131$
14. $4 \times 217$
15. $2 \times 415$
16. $2 \times 253$

Mixed Review

17. $12,489 + 1,429$
18. $1,227 - 828$
19. $45,123 - 5,124$
20. $73,711 - 25,609$

Problems 21–24 use the following graph.

21. What type of graph is shown here?

22. How much snow fell in Baltimore during the months of January and February?

23. What two months had a total of 31 inches of snowfall?

24. What was the total snowfall for all four months?
Multiply 3-Digit Numbers

Multiply. Tell which place-value positions need to be regrouped.

1. \(52 \times 5\)  
2. \(83 \times 8\)  
3. \(401 \times 7\)  
4. \(207 \times 3\)

5. \(91 \times 7\)  
6. \(862 \times 4\)  
7. \(121 \times 9\)  
8. \(471 \times 9\)

Find the product. Estimate to check.

9. \(504 \times 6\)  
10. \(230 \times 4\)  
11. \(59 \times 6\)  
12. \(812 \times 3\)

13. \(29 \times 8\)  
14. \(57 \times 9\)  
15. \(755 \times 4\)  
16. \(929 \times 5\)

17. \(291 \times 7\)  
18. \(82 \times 6\)  
19. \(517 \times 9\)  
20. \(771 \times 7\)

Compare. Write <, >, or = for each ∘.

21. \(127 \times 6 \, ∘ \, 308 \times 2\)  
22. \(94 \times 5 \, ∘ \, 57 \times 9\)  
23. \(572 \times 2 \, ∘ \, 143 \times 8\)

Mixed Review

24. What is the elapsed time between 5:12 A.M. and 6:05 P.M.?

25. What is the place-value of the digit 4 in the number 189.0643?

26. Three brothers each have four pairs of shoes. How many shoes are there in total?

27. Write 35,801 in expanded form.
Multiply 4-Digit Numbers

1. Explain where to put the decimal point in $13.54 \times 9$.

Find the product. Estimate to check.

2. 5,092
   \[ \times 5 \]

3. 834
   \[ \times 5 \]

4. 4,801
   \[ \times 3 \]

5. $20.72
   \[ \times 3 \]

6. $42.91
   \[ \times 7 \]

7. 6,254
   \[ \times 7 \]

8. $12.18
   \[ \times 9 \]

9. $7.81
   \[ \times 9 \]

10. $46.29 \times 3$

11. 357 \times 6

12. 5,555 \times 4

13. $9.24 \times 7$

14. ($6.94 \times 3) \times 2$

15. $(4 \times $12.25) \times 3$

16. (982 \times 3) \times 7

Mixed Review

17. If today is Sunday, July 1, what was yesterday?

18. Michele was assigned a project on March 7th. If she was given 3 weeks to complete the project, when is it due?

19. What is the date two weeks before April 23rd?

20. What is the median number of days in the months of September, October, and November?
Problem Solving Strategy

Write an Equation

For 1–5, write an equation and solve.

1. Theresa’s father works 5 days a week for 48 weeks a year. How many days does her father work in a year?

   ____________________________

2. Theresa’s father makes $24.50 per hour. How much does he make if he works 8 hours?

   ____________________________

3. The football team is raising money for new footballs. How much money does the team need to raise if they want 6 new footballs and each one costs $17.93?

   ____________________________

4. A civil engineer measured the number of cars that passed through an intersection. If 2,457 cars passed through the intersection in one hour, how many cars would pass through the intersection in 8 hours?

   ____________________________

5. Brianna practices playing guitar for 60 minutes a day. How many minutes does she practice in one week?

   ____________________________

Each floor of a nine-story office building has 132 windows. How many windows are there in all?

6. What equation can you use to help you answer the question?
   
   A  \( 9 \times n = 132 \)     C  \( n \times 132 = 9 \)    F  188
   
   B  \( 9 \times 132 = n \)     D  \( n \times 9 = 132 \)    H  1088

7. What solution answers the question?
   
   F  188    H  1088

Review Skills

8. 14

9. 12

10. 26

11. 42

12. 33

\( \times 5 \)

\( \times 8 \)

\( \times 3 \)

\( \times 2 \)

\( \times 5 \)

13. $2.98 \times 7$

14. $14.81 \times 3$
Patterns with Multiples

Use a basic fact and a pattern to find the product.

1. $6 \times 5 = \underline{\quad} \quad 2. 2 \times 2 = \underline{\quad}$
   $6 \times 50 = \underline{\quad} \quad 2 \times 20 = \underline{\quad}$
   $6 \times 500 = \underline{\quad} \quad 2 \times 200 = \underline{\quad}$
3. $3 \times 6 = \underline{\quad} \quad 4. 9 \times 9 = \underline{\quad}$
   $3 \times 60 = \underline{\quad} \quad 9 \times 90 = \underline{\quad}$
   $3 \times 600 = \underline{\quad} \quad 9 \times 900 = \underline{\quad}$
   $3 \times 6,000 = \underline{\quad} \quad 9 \times 9,000 = \underline{\quad}$
5. $10 \times 3 = \underline{\quad} \quad 6. 40 \times 3 = \underline{\quad}$
   $10 \times 30 = \underline{\quad} \quad 40 \times 30 = \underline{\quad}$
   $10 \times 300 = \underline{\quad} \quad 40 \times 300 = \underline{\quad}$
   $10 \times 3,000 = \underline{\quad} \quad 40 \times 3,000 = \underline{\quad}$
7. $600 \times 30 = \underline{\quad} \quad 8. 70 \times 3,000 = \underline{\quad}$
8. $1,000 \times 30 = \underline{\quad} \quad 10. 6,000 \times 6,000 = \underline{\quad}$

Find the value of $n$.

11. $n \times 40 = 8,000$  

12. $900 \times 300 = n$

Mixed Review

Round to the place value of the bold digit.

13. $57,403,294$  
14. $983,204,448$  
15. $982,404$

Solve.

16. $300,010 - 255,492$  
17. $392,402 + 492,148$  
18. $12,498 - 10,816$
Multiply by Multiples of 10

Find the product.

1. \(30 \times 5\)  
2. \(60 \times 30\)  
3. \(85 \times 30\)  
4. \(67 \times 90\)

5. \(30 \times 70\)  
6. \(83 \times 5\)  
7. \(82 \times 50\)  
8. \(95 \times 50\)

9. \(74 \times 20\)  
10. \(50 \times 48\)  
11. \(60 \times 29\)

12. \(93 \times 40\)  
13. \(28 \times 50\)  
14. \(72 \times 90\)

Find the missing digits.

15. \(30 \times \_0 = 300\)  
16. \(\_0 \times 20 = 800\)  
17. \(16 \times \_0 = 640\)

18. \(4\_\_ \times 80 = 3,600\)  
19. \(1\_\_ \times 30 = 540\)  
20. \(\_4 \times 50 = 3,200\)

21. \(8\_\_ \times 20 = 1,700\)  
22. \(9\_\_ \times 60 = 5,700\)  
23. \(\_6 \times 80 = 6,080\)

Mixed Review

Solve.

24. \(n \times 4 = 28\)  
25. \(81 \div b = 9\)  
26. \(t \times (3 \times 2) = 18\)

27. \(y \times 60 = 420\)  
28. \(300 \times w = 36,000\)  
29. \(p \times 500 = 6,000\)

30. \(13 \times 4\)  
31. \(21 \times 5\)  
32. \(17 \times 2\)  
33. \(18 \times 5\)

34. \(19 \times 3\)  
35. \(25 \times 4\)  
36. \(16 \times 8\)  
37. \(14 \times 7\)
Estimate Products

Round each factor. Estimate the product.

1. \(35 \times 11\)  
2. \(54 \times 32\)  
3. \(97 \times 93\)  
4. \(549 \times 65\)  
5. \(486 \times 74\)

6. \(658 \times 209\)  
7. \(648 \times 174\)  
8. \(84 \times 151\)  
9. \(339 \times 359\)  
10. \(884 \times 444\)

11. \(312 \times 45\)  
12. \(951 \times 84\)  
13. \(503 \times 49\)  
14. \(320 \times 40\)  
15. \(39 \times 503\)

16. \(85 \times 81\)  
17. \(814 \times 242\)  
18. \(957 \times 84\)  
19. \(584 \times 394\)  
20. \(84 \times 315\)

Use estimation to compare. Write <, >, or = in each circle.

21. \(609 \times 33\)  
22. \(15,000 \times 459 \times 35\)

23. \(872 \times 254\)  
24. \(965 \times 198\)

Mixed Review

Estimate by rounding to the largest place value.

25. \(485,492 - 39,492\)  
26. \(493,430 \times 483,582\)  
27. \(361 \times 42\)  
28. \(729 \times 58\)

Multiply.

29. \(4,000 \times 70\)  
30. \(900 \times 300\)  
31. \(6,000 \times 200\)  
32. \(3,200 \times 20\)
Model Multiplication

Make a model, record and solve.

1. \[16 \times 22\]
2. \[24 \times 13\]
3. \[19 \times 12\]
4. \[25 \times 18\]
5. \[15 \times 21\]
6. \[20 \times 16\]
7. \[14 \times 12\]
8. \[25 \times 13\]

Make a model to find the product. You may use grid paper and markers.

9. \[13 \times 18\]
10. \[23 \times 15\]
11. \[62 \times 21\]

Mixed Review

12. \[15 \times 90 = n\]
13. \[40 \times n = 160,000\]
14. Order from greatest to least: \[87,433; 86,999; 86,302; 87,593; 87,309\]
15. What day is 12 days after Wednesday, March 15?

Complete the table.

16. \[
\begin{array}{cccccccc}
\times & 4 & 12 & 3 & 6 & 5 & 11 & 8 \\
7 & & & & & & & \\
9 & & & & & & & \\
\end{array}
\]
Problem Solving Strategy

Solve a Simpler Problem

Break the problem into simpler parts and solve.

1. \(40 \times 28 = (40 \times 20) + (40 \times 8)\)
   \(= \) __________ + __________
   \(= \) __________

2. \(80 \times 49 = (\quad \times \quad) + (\quad \times \quad)\)
   \(= \) __________ + __________
   \(= \) __________

A warehouse has many pieces of wood in stock. It is going to sell 312 bundles of wood with 20 pieces of wood in each bundle. How many pieces of wood will be sold?

3. Write an expression to help you solve the problem.

4. Find the total number of pieces of wood sold.

During a bad storm, Benny is using candles for light. He has 30 candles and each one burns for about 115 minutes. How many minutes of light does Benny have?

5. Write an expression to help you solve the problem.

6. Find the number of minutes of light in 30 candles.

Mixed Review

7. Mr. Rawlins has 57 fifth graders in two classes. He gives them a test with 30 questions on it. How many questions will he have to read to grade papers?

8. Antoin has $12.50. He wants to buy 20 pens that cost 80¢ each. Does he have enough money?

9. \((13 + 2) \times n = 60\)

10. \(12 - (3 \times 3) = y\)

11. \((42 - 22) + x = 31\)
Multiply by 2-Digit Numbers

Use regrouping of partial products to find the product. Estimate to check.

1. \[62 \times 35\]
2. \[55 \times 29\]
3. \[73 \times 44\]
4. \[48 \times 27\]

5. \[81 \times 17\]
6. \[67 \times 23\]
7. \[26 \times 18\]
8. \[32 \times 24\]

9. \[\$74 \times 16\]
10. \[69 \times 36\]
11. \[\$39 \times 35\]
12. \[76 \times 11\]

13. \[14 \times 53 = \]
14. \[26 \times 77 = \]
15. \[\$26 \times 74 = \]
16. \[21 \times 79 = \]

Mixed Review

Write the missing product.

17. \[30 \times 19 = 570, \text{ so } 30 \times 18 = \]

18. \[65 \times 15 = 975, \text{ so } 65 \times 16 = \]

19. \[40 \times 21 = 840, \text{ so } 40 \times 22 = \]

20. \[29 \times 24 \times 9 \times 8 \times 3\]
21. \[17 \times 4 \times 9 \times 8 \times 3\]
22. \[38 \times 9 \times 8 \times 3\]
23. \[52 \times 9 \times 8 \times 3\]
24. \[91 \times 9 \times 8 \times 3\]

25. \[12 \times 4 = \]
26. \[8 \times 8 = \]
More About Multiplying by 2-Digit Numbers

Find the product. Estimate to check.

1. 221 \times 17
2. $447 \times 36
3. 727 \times 32
4. 362 \times 27

5. 549 \times 22
6. $7.29 \times 46
7. 636 \times 34
8. 659 \times 73

9. 74 \times 138 =
10. 25 \times 808 =
11. 89 \times $465 =
12. 19 \times $517 =

Find the value for \( n \) that makes the equation true.

13. \( n \times 720 = 10,800 \)
14. 491 \times n = 8,838
15. \( n \times 679 = 5,432 \)

Mixed Review

16. \( (25 \div 5) + 10 \)
17. \( 40 \div (2 \times 4) \)
18. \( (48 \div 8) \times (3 + 8) \)

19. \[ \begin{array}{c} 6,442 + 2,192 \\ 4,612 - 895 \\ 3,292 - 2,890 \\ 6,505 - 398 \end{array} \]

20. \[ \begin{array}{c} \times 5 \\ \times 6 \\ \times 8 \\ \times 5 \\ \times 7 \end{array} \]
Multiply Greater Numbers

Find the product. Estimate to check.

1. 2,001 \times 96
2. $2,425 \times 24
3. 3,478 \times 47
4. $5,699 \times 26

5. 1,527 \times 76
6. 3,639 \times 69
7. 7,498 \times 55
8. 6,643 \times 78

9. 48 \times 2,769 = 
10. 36 \times 4,873 = 

Problems 11–12 show 2 common errors. Describe each error and correct it.

11. 1,360 \times 42
   \underline{\phantom{000}}
   272
   \underline{\phantom{000}}
   5,440
   \underline{\phantom{000}}
   5,712

12. 2,966 \times 16
   \underline{\phantom{000}}
   17,796
   \underline{\phantom{000}}
   29,660
   \underline{\phantom{000}}
   36,356

Mixed Review

13. (4 \times 7) \times 5
14. (6 \times 10) \times 2
15. (40 \div 8) \times 12

16. 19 \times 60
17. 29 \times 11
18. 32 \times 28
19. 2,511 \times 16

20. 787 - 319
21. 4,612 - 895
22. 3,292 - 2,890
23. 6,908 - 5,002
Practice Multiplication

Find the product. Estimate to check.

1. 2,091 \times 26
2. $5.84 \times 6
3. 518 \times 27
4. $3.20 \times 84

5. 3,493 \times 36
6. $45.39 \times 31
7. 2,949 \times 26
8. 813 \times 63

9. $40.30 \times 64
10. $5,403 \times 38
11. 942 \times 81
12. 3,009 \times 49

Mixed Review

13. School ended at 3:20 P.M. Ida walked to Sam’s house, which took 20 minutes. She stayed there for 1 hour. Then she had to walk home. The walk from Sam’s house to her home took 40 minutes. At what time did she get home?

14. Marilu’s dad has some weights in the basement. Marilu is trying to lift a box with 3 5-lb weights, 7 1-lb weights, and 2 7-lb weights. How much weight is in the box?

Complete the table.

15. \[ \begin{array}{cccccccc}
5 & 7 & 2 & 8 & 3 & 9 & 12 & 6 \\
\hline
12 & & & & & & & \\
\end{array} \]

16. 10,000 \quad 17. 25,000 \quad 18. 19,000 \quad 19. 31,000

\[ \begin{array}{cccccccc}
5,794 & - & 21,211 & - & 9,655 & - & 28,414 \\
\end{array} \]
Problem Solving Skill

Multistep Problems

For 1–4, use the table.

The school cafeteria can add two new meals to the menu. They have been testing four meals and will pick the one that is most popular and the one that brings in the most money. The table shows the number of students who ate each meal and the cost of each serving.

<table>
<thead>
<tr>
<th>Food</th>
<th>number of students</th>
<th>cost of each serving</th>
</tr>
</thead>
<tbody>
<tr>
<td>chicken patties</td>
<td>302</td>
<td>$1.12</td>
</tr>
<tr>
<td>veggie burger</td>
<td>309</td>
<td>$0.89</td>
</tr>
<tr>
<td>cheese sandwich</td>
<td>307</td>
<td>$0.95</td>
</tr>
<tr>
<td>lentil soup</td>
<td>189</td>
<td>$1.05</td>
</tr>
</tbody>
</table>

1. Write an expression to find the amount of money brought in by veggie burgers.

2. How much money is brought in by sales of lentil soup?

3. How much more money is brought in by chicken patties than by cheese sandwiches?

4. Which two new meals will the cafeteria staff choose?

Mixed Review

5. $12.27 \times 3$

6. $8.99 \times 4$

7. $11.15 - 7.27$

8. $19.89 - 6.40$

9. $65 \times (437 - 81) = n$

10. $312 \times n = 24,336$
Divide with Remainders

**Vocabulary**

1. In a division problem, the ______________ is the amount left over when a number is not evenly divided.

Make a model, record, and solve.

2. \(4\overline{)19}\)  
3. \(3\overline{)25}\)  
4. \(6\overline{)38}\)  
5. \(2\overline{)17}\)

Divide. You may wish to use counters.

6. \(7\overline{)61}\)  
7. \(5\overline{)47}\)  
8. \(3\overline{)19}\)  
9. \(8\overline{)43}\)

10. \(6\overline{)58}\)  
11. \(9\overline{)49}\)  
12. \(2\overline{)13}\)  
13. \(7\overline{)65}\)

**Mixed Review**

Complete each table.

<table>
<thead>
<tr>
<th>(\times)</th>
<th>4</th>
<th>5</th>
<th>9</th>
<th>3</th>
<th>11</th>
<th>7</th>
<th>6</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(\times)</th>
<th>11</th>
<th>12</th>
<th>5</th>
<th>8</th>
<th>7</th>
<th>4</th>
<th>6</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Model Division**

Make or draw a model. Solve.

1. $52 \div 3 = \underline{\hspace{2cm}}$  
2. $68 \div 4 = \underline{\hspace{2cm}}$  
3. $65 \div 5 = \underline{\hspace{2cm}}$

4. $7 \overline{)91}$  
5. $6 \overline{)100}$  
6. $2 \overline{)58}$

7. $63 \div 3 = \underline{\hspace{2cm}}$  
8. $78 \div 4 = \underline{\hspace{2cm}}$  
9. $53 \div 4 = \underline{\hspace{2cm}}$

10. $2 \overline{)38}$  
11. $3 \overline{)48}$  
12. $6 \overline{)72}$

**Mixed Review**

For 13–15, use the table. The students in Mr. Jackson’s class are holding a bake sale.

<table>
<thead>
<tr>
<th>Kind of Cookie</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate chip</td>
<td>42</td>
</tr>
<tr>
<td>Oatmeal</td>
<td>65</td>
</tr>
<tr>
<td>Ginger</td>
<td>48</td>
</tr>
</tbody>
</table>

13. If Sara divides the chocolate chip cookies evenly into 3 bags, how many cookies does she put into each bag?

14. If Tim divides the oatmeal cookies evenly into 5 bags, how many cookies does he put into each bag?

15. Mr. Brown bought one bag of cookies for $1.75. What was his change from a $10 bill?

Solve.

16. $17.50 + 17.50 = \underline{\hspace{2cm}}$
17. $248.32 - 119.55 = \underline{\hspace{2cm}}$
18. $49.68 - 5.11 = \underline{\hspace{2cm}}$
19. $22.99 + 85.98 = \underline{\hspace{2cm}}$
Division Procedures

Divide and check.

1. \(2\overline{)64}\)  Check:  
2. \(3\overline{)96}\)  Check:  
3. \(4\overline{)51}\)  Check:  

4. \(3\overline{)94}\)  Check:  
5. \(7\overline{)93}\)  Check:  
6. \(8\overline{)89}\)  Check:  

Mixed Review

7. Shari sold 114 boxes of cookies with 14 cookies in each box. How many cookies did she sell?

8. A football stadium can seat 50,013 people. If 24,394 seats are empty, how many people are attending the game?

9. \(8 \times 9 = 72\)  
   \(9 \times 8 = \_\)  
   \(72 \div \_ = 8\)  
   \(\_ \div 8 = 9\)

10. \(12 \times 7 = \_\)  
    \(7 \times 12 = \_\)  
    \(84 \div 7 = \_\)  
    \(84 \div 12 = \_\)

11. \(7 \times 6 = \_\)  
    \(\_ \times 7 = 42\)  
    \(42 \div 7 = \_\)  
    \(\_ \div 6 = \_\)
Problem Solving Strategy

**Predict and Test**

Predict and test to solve.

1. There were 93 students going to a nature camp. After equal groups were formed for hiking, 2 students were left over. There were fewer than 10 students in each group. How many groups were formed?

2. During a hike, Sally and Dave collected 160 acorns. Sally collected 3 times as many acorns as Dave. How many acorns did Dave collect?

3. The 93 nature camp students ate lunch at the lodge. They sat at an even number of tables. There were 5 students sitting at one table, and an equal number of students sitting at each of the other tables. How many students were sitting at each of the other tables?

4. At one table, some of the students shared 3 pizzas. Each pizza was cut into 8 slices. After the students shared the pizza equally, there were 3 slices left over. How many students shared the pizza? How many slices of pizza did each student eat?

5. For which candidate is the difference between the number of men’s and women’s votes the greatest?

6. About how many women voted for Jones?

7. About how many men voted for O’Shea?

8. About how many people voted at Polling Station #3?
Mental Math: Division Patterns

Use a basic division fact and patterns to write each quotient.

1. \[240 \div 6 = \] 2. \[350 \div 5 = \] 3. \[360 \div 4 = \]
   \[2,400 \div 6 = \] 3. \[3,500 \div 5 = \] 3. \[3,600 \div 4 = \]
   \[24,000 \div 6 = \] 3. \[35,000 \div 5 = \] 3. \[36,000 \div 4 = \]

Divide mentally. Write the basic division fact and the quotient.

4. \[3)\underline{210} \] 5. \[4)\underline{2,800} \] 6. \[2)\underline{8,000} \] 7. \[9)\underline{450} \] 8. \[7)\underline{49,000} \]

9. \[8)\underline{40,000} \] 10. \[8)\underline{3,200} \] 11. \[4)\underline{120} \]
12. \[6)\underline{36,000} \] 13. \[5)\underline{2,000} \]

Mixed Review

For Problems 14–16, use the table at the right.

14. The Shaw family drove from Boston to Houston in 6 days. If they drove about the same distance each day, about how many miles did they drive each day?

15. The Peters family drove from Boston to Philadelphia at an average speed of 50 miles per hour. About how many hours did they drive?

16. Tom and his family left Boston on Monday morning to drive to Kansas City. If they drove about 200 miles each day, what day did they arrive at Kansas City?
Estimate Quotients

Choose the letter of the best estimate.

1. $359 \div 5$  
   a. 70 or 80  
   b. 7 or 8  
   c. 15 or 20

2. $715 \div 7$  
   a. 17 or 18  
   b. 10 or 11  
   c. 100 or 110

3. $156 \div 4$  
   a. 12 or 13  
   b. 40 or 50  
   c. 4 or 5

Estimate by using compatible numbers.

4. $2\overline{)175}$  
5. $4\overline{)231}$  
6. $6\overline{)375}$  
7. $8\overline{)255}$

8. $5\overline{)2,681}$  
9. $4\overline{)3,289}$  
10. $8\overline{)4,007}$  
11. $3\overline{)1,811}$

12. $3\overline{)241}$  
13. $5\overline{)4,787}$  
14. $5\overline{)388}$  
15. $7\overline{)3,594}$

Mixed Review

Solve.

16. $2 \times 7 \times 2 = $  
17. $9 \times 5 \times 1 = $  
18. $2 \times 4 \times 7 = $

19. $12 - 2 = $ + 5  
20. $20 + $ = 16 + 24  
21. $9 \times 9 = $ ÷ 2

22. $15.72 - $ 8.03  
23. 62,109 - 45,863  
24. $14.38 + $57.60  
25. 1,990 + 3,473
Place the First Digit

Tell where to place the first digit. Then divide.

1. \(5\overline{36}\)  
   \[\underline{\phantom{0}}\]  
2. \(3\overline{62}\)  
   \[\underline{\phantom{0}}\]  
3. \(2\overline{173}\)  
   \[\underline{\phantom{0}}\]  
4. \(6\overline{72}\)  
   \[\underline{\phantom{0}}\]

5. \(4\overline{241}\)  
   \[\underline{\phantom{0}}\]  
6. \(7\overline{702}\)  
   \[\underline{\phantom{0}}\]  
7. \(9\overline{381}\)  
   \[\underline{\phantom{0}}\]  
8. \(4\overline{820}\)  
   \[\underline{\phantom{0}}\]

Find the quotient. Check by multiplying.

9. \(6\overline{45}\)  
   Check: \(6\times\underline{7} = 42\)  
10. \(3\overline{84}\)  
    Check: \(3\times\underline{2} = 6\)  
11. \(5\overline{149}\)  
    Check: \(5\times\underline{2} = 10\)

12. \(2\overline{157}\)  
    Check: \(2\times\underline{7} = 14\)  
13. \(3\overline{171}\)  
    Check: \(3\times\underline{5} = 15\)  
14. \(7\overline{823}\)  
    Check: \(7\times\underline{3} = 21\)

Mixed Review

15. \(32 \times 12\)  
16. \(48 \times 11\)  
17. \(5,913 - 2,708\)  
18. \(25,926 - 15,827\)
Divide 3-Digit Numbers

Divide.

1. \(4)\overline{137}\)
2. \(3)\overline{325}\)
3. \(2)\overline{198}\)
4. \(7)\overline{924}\)

Divide and check.

5. \(3)\overline{152}\) Check:
6. \(2)\overline{542}\) Check:
7. \(5)\overline{627}\) Check:

8. \(324 \div 6 = \underline{_____}\) Check:
9. \(647 \div 9 = \underline{_____}\) Check:

Mixed Review

10. \(14 \times 25\)
11. \(348 \times 55\)
12. \(4,542 \times 17\)
13. \(351 \times 84\)
14. \(8,421 \times 20\)

15. \(2,621 + 5,892\)
16. \(7,457 - 3,329\)
17. \($29.82 + 49.70\)
18. \(4,608 - 3,789\)
19. \(4,816 + 5,184\)
Zeros in Division

Write the number of digits in each quotient.

1. $4 \div 364$
2. $6 \div 612$
3. $3 \div 411$
4. $7 \div 105$

5. $5 \div 545$
6. $8 \div 432$
7. $7 \div 905$
8. $2 \div 123$

Divide.

9. $3 \div 312$
10. $4 \div 429$
11. $6 \div 526$
12. $4 \div 436$

13. $6 \div 724$
14. $5 \div 531$
15. $9 \div 250$
16. $7 \div 903$

Mixed Review

17. $8 \times 6 = _____$
18. $12 \times 2 = _____$
19. $9 \times 8 = _____$

20. $4 \times 4 = _____$
21. $6 \times 5 = _____$
22. $7 \times 7 = _____$

23. $7 \times 3 = _____$
24. $9 \times 6 = _____$
25. $12 \times 3 = _____$

26. $11 \times 6 = _____$
27. $3 \times 8 = _____$
28. $8 \times 8 = _____$
Divide Greater Numbers

Divide.

1. 4)740  2. 5)630  3. 6)828  4. 7)756  5. 3)840

6. 9)945  7. 4)840  8. 2)734  9. 8)400  10. 7)483

11. 4)5,316  13. 5)6,030  14. 8)3,208  16. 1,680

12. 16)1,680  15. 5)6,600

Mixed Review

16. Evaluate: (25 − 9) + (12 ÷ 3)

17. Find the median: 3, 6, 4, 6, 3, 4, 6, 7, 2

18. Find the elapsed time.
   Start time: 8:03 A.M.
   End time: 2:51 P.M.

19. 36 × 12 = ______

20. 88 × 11 = ______

21. 54 × 9 = ______
Problem Solving Strategy

Interpret the Remainder

Solve. Tell how you interpret the remainder.

1. The 158 fourth graders from the Glenwood School are going on a picnic. If there are 8 hot dogs in a package, how many packages are needed for each student to have 2 hot dogs?

2. Some of the students baked cookies for the picnic. Jeff baked 50 cookies. How many packages of 3 cookies each could he make?

3. The 158 students divide up into teams of 8 for a scavenger hunt. The students who are left over form a smaller team. How many teams are there?

4. Mrs. Jackson bought 7 dozen eggs for an egg-tossing contest. If the 158 students divide into pairs, and each pair of students takes 1 egg, how many eggs are left over?

Mixed Review

For 5–7, use the price list.

5. Kito bought 4 pencils, 2 erasers, and a ruler. How much money did he spend?

6. On Monday, the store sold 20 pencils, 10 erasers, and 3 rulers. On Tuesday, the store sold 15 pencils, 13 erasers, and 3 rulers. On which day did the store take in more money?

7. On Friday, the store received a new supply of 72 pencils. Bill arranged the new pencils in groups of 5. How many groups could he make? How many pencils were left over?
Find the Mean

Vocabulary

Complete.

1. A(n) ________________ is the number found by dividing the sum of a set of numbers by the number of addends.

Write the division problem. Then find the mean.

2. 7
3. 3
4. 143
5. 2,516

7
5
99
6,518

10
6
213
3,215

12
9
407
4,327

14
12
698

Find the mean.

6. 2,178; 4,214; 1,291
7. 9,972; 2,755; 1,130

Find the mean.

Mixed Review

8. _____ × 1 = 7
9. _____ × 4 = 20
10. 8 × _____ = 56

_____ × 10 = 70
5 × _____ = 200
_____ × 70 = 560

_____ × 100 = 700
5 × _____ = 2,000
8 × 700 = _____

11. 10 tens 5 ones = _____ tens 15 ones

12. 8 tens 17 ones = 9 tens _____ ones

13. 3 hundreds 14 tens = _____ hundreds 4 tens
Division Patterns to Estimate

Write the numbers you would use to estimate the quotient. Then estimate.

1. $58 \div 15$

2. $695 \div 65$

3. $556 \div 68$

4. $273 \div 32$

5. $447 \div 52$

6. $810 \div 42$

Estimate.

7. $45 \div 14$

8. $362 \div 64$

9. $596 \div 34$

10. $79 \div 19$

11. $462 \div 83$

12. $721 \div 78$

Complete the tables.

<table>
<thead>
<tr>
<th>Dividend</th>
<th>Divisor</th>
<th>Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>$\div 30$</td>
<td>________</td>
</tr>
<tr>
<td>________</td>
<td>$\div 30$</td>
<td>20</td>
</tr>
<tr>
<td>6,000</td>
<td>$\div 30$</td>
<td>________</td>
</tr>
<tr>
<td>________</td>
<td>$\div 30$</td>
<td>2,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dividend</th>
<th>Divisor</th>
<th>Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>$\div 20$</td>
<td>________</td>
</tr>
<tr>
<td>________</td>
<td>$\div 20$</td>
<td>40</td>
</tr>
<tr>
<td>________</td>
<td>$\div 20$</td>
<td>400</td>
</tr>
<tr>
<td>80,000</td>
<td>$\div 20$</td>
<td>________</td>
</tr>
</tbody>
</table>

Mixed Review

21. $39 \times 67$

22. $379 \times 46$

23. $3,593 \times 4$

24. $5,201 \times 82$

25. $81 \div 9 = _____$

26. $140 \div 5 = _____$

27. $320 \div 8 = _____$

28. $72 \div 8 = _____$

29. $660 \div 6 = _____$

30. $490 \div 7 = _____$
Model Division

Make a model to divide.

1. $15\overline{)67}$  
   2. $28\overline{)118}$  
   3. $21\overline{)85}$

4. $32\overline{)100}$  
   5. $35\overline{)176}$  
   6. $37\overline{)115}$

7. $78 \div 25 = _____$  
   8. $97 \div 13 = _____$  
   9. $117 \div 22 = _____$

Use the model to complete the number sentence.

10. $61 \div 28 = _______

11. $38 \div 9 = _______

Mixed Review

12. $100,000 \times 700$  
   13. $495 \times 39$  
   14. $\$872.64 - \$41.98$  
   15. $\$784.32 + \$32.53$

16. $200,000 \times 3,100$  
   17. $702 \times 44$  
   18. $\$90.89 - \$89.77$  
   19. $\$645.30 + \$822.98$
Division Procedures

Divide.

1. \(22 \div 598\)  
2. \(16 \div 239\)  
3. \(11 \div 346\)  
4. \(21 \div 369\)

5. \(13 \div 461\)  
6. \(12 \div 293\)  
7. \(31 \div 862\)  
8. \(28 \div 981\)

9. \(17 \div 206\)  
10. \(19 \div 81\)  
11. \(23 \div 485\)  
12. \(28 \div 150\)

Mixed Review

13. \(4 \div 532\)  
14. \(4 \div 626\)  
15. \(\frac{90,008}{-66,849}\)  
16. \(967 \times 56\)
Correcting Quotients

Write *too high, too low, or just right* for each estimate. Then divide.

1. \( \frac{8}{17} \) \( \overline{152} \) \hspace{1cm} 2. \( \frac{4}{35} \) \( \overline{186} \)

3. \( \frac{7}{42} \) \( \overline{351} \) \hspace{1cm} 4. \( \frac{8}{48} \) \( \overline{374} \)

5. \( \frac{7}{52} \) \( \overline{419} \) \hspace{1cm} 6. \( \frac{8}{76} \) \( \overline{679} \)

7. \( \frac{9}{63} \) \( \overline{556} \) \hspace{1cm} 8. \( \frac{9}{67} \) \( \overline{650} \)

Mixed Review

9. Sue is packing 116 spools of thread into shoe boxes. Each box can hold 42 spools of thread. Will Sue be able to pack all the spools into 2 boxes? Explain.

10. Tony is estimating the time he needs to complete his math homework. He can complete about 3 problems per minute. If he allows 20 minutes, will he finish his 42 math problems? Explain.
Problem Solving Skill

Choose the Operation

Solve. Name the operation you used.

1. Mr. Murphy owns a bakery. On Saturday, he baked 60 blueberry muffins, 48 corn muffins, and 72 cranberry muffins. How many muffins did he bake in all?

2. Mr. Murphy sold 498 cookies on Saturday. At the beginning of the day, there were 512 cookies. How many cookies were left at the end of the day?

3. Susan bought 4 muffins for $0.79 each. How much money did she spend?

4. Ryan paid $2.34 for 6 chocolate chip cookies. How much did each cookie cost?

Mixed Review

For 5–7, use the graph.

5. How many bicycles were sold on Wednesday?

6. How many bicycles were sold during the week?

7. How many more bicycles were sold on Saturday than on Monday?

8. Will wants to buy a bicycle that costs $109. He has already saved $45. If Will earns $8 each week, how many weeks will it take him to save enough money to buy the bicycle?

9. Some days, Mary rides her bicycle to and from school. The distance is about 2 miles each way. In October, Mary rode her bicycle to and from school 14 times. About how many miles did she ride in October?
Factors and Multiples

List the factors you can find in a multiplication table for each product.

1. 16  
   2. 36  
   3. 81  
   4. 20

   ___________  ___________  ___________  ___________

5. 48  
   6. 72  
   7. 32  
   8. 63

   ___________  ___________  ___________  ___________

Use a multiplication table to find four multiples for each number.

9. 4  
10. 9  
11. 6  
12. 3

   ___________  ___________  ___________  ___________

Use what you know about multiplication. Find as many factors as you can for each product.

13. 20  
14. 14  
15. 6  
16. 23

   ___________  ___________  ___________  ___________

17. 24  
18. 28  
19. 19  
20. 64

   ___________  ___________  ___________  ___________

Mixed Review

21. Find 8 - b if b = 4  
22. Find 80 ÷ m if m = 8  
23. Find t × 7 if t = 9

   ___________  ___________  ___________

24. 4 weeks = ? days  
25. 8 + O = 2 × 9  
26. 6,511 ÷ 5

   ___________  ___________  ___________

27. 8100 ÷ 90 =  
28. 367 ÷ 21 =  
29. 40 × 600 =
Factor Numbers

Write an equation for the arrays shown.

1.  
   
   
2.  
   
   
3.  
   
   

Write two ways to break down the model.

4.  
   
   
5.  

6.  
   
   

Write at least two ways to break down the number.

7. 56
   
   
8. 12
   
   
9. 42
   
   

10. 36
    
    
11. 24
    
    
12. 60
    

Mixed Review

13. 8,516
    563
    + 518

14. 648,518
    + 315,849

15. 900,002
    + 95,518

16. 789 ÷ 33

17. 4,621 ÷ 15

18. 929 ÷ 31

19. 5,017 ÷ 6
Prime and Composite Numbers

Make arrays to find the factors. Write *prime* or *composite* for each number.

1. 19 ________ 2. 32 ________ 3. 81 ________ 4. 36 ________
   ________  ________  ________  ________
5. 27 ________ 6. 56 ________ 7. 29 ________ 8. 18 ________
   ________  ________  ________  ________

List as many factors as you can. Write *prime* or *composite* for each number.

9. 42 ________ 10. 64 ________ 11. 100 ________ 12. 72 ________
   ________  ________  ________  ________
13. 22 ________ 14. 15 ________ 15. 91 ________ 16. 47 ________
   ________  ________  ________  ________

Frances has to put cans on a shelf. Each shelf must have an equal number of cans. How many ways can she shelve the cans? List the ways.

17. 12 CANS
   ________
18. 24 CANS
   ________
19. 18 CANS
   ________

Mixed Review

20. Train A traveled the 29 miles between Dell City and Mesabi 18 times. Train B traveled the 21 miles between Mesabi and Dodge 24 times. Which train traveled the most miles?

21. Joanna left school at 3:30 P.M. She went to volleyball practice for 90 minutes. She stopped at her aunt’s house for 75 minutes. What time did she get home?
Find Prime Factors

Write each as a product of prime factors.

1. 36 _______ 2. 81 _______ 3. 18 _______ 4. 27 _______
   _______  _______  _______  _______

5. 32 _______ 6. 34 _______ 7. 88 _______ 8. 96 _______
   _______  _______  _______  _______

9. 72 _______ 10. 20 _______ 11. 144 _______ 12. 55 _______
   _______  _______  _______  _______

13. 56 _______ 14. 256 _______ 15. 38 _______ 16. 71 _______
    _______  _______  _______  _______

Write the missing factor.

17. 66 = 3 × ■ 18. 98 = 2 × ■

19. 56 = 2 × 2 × 2 × ■ 20. 100 = 2 × 2 × ■ × ■

Mixed Review

21. Order from greatest to least
    7,077 7,707 7,070 7,700 7,770 7,777
    ________________________________

22. Order from least to greatest
    4.106, 41.6, .4601, 6.01, 4.001
    ________________________________

23. Estimate: 9,083 × 59
    ________________________________

24. Estimate: $4,593.93 – $2,279.54
    ________________________________

25. Estimate: 6√55
    ________________________________

26. Estimate: 9√85
    ________________________________
Problem Solving Strategy

Find a Pattern

1. Continue the pattern.
   1, 2, 6, 24,

2. Continue the pattern.
   3, 9, 27,

3. Describe the pattern in Exercise 1.

4. Describe the pattern in Exercise 2.

5. What are the next two numbers in the following sequence?
   1, 3, 7, 13, 19, ___, ___

6. What are the next two symbols in the following sequence?
   ○□○□□□○□□□□□__ __

7. Monica is playing a guessing game with her friends. When they say 5, she says 20. When they say 9, she says 36. When they say 2, she says 8. What is the pattern?

8. Ruthie is writing a pattern where she gets a number by multiplying the last number by 2 and adding 3. Write the next two numbers.
   1, 5, 13, 29, ___, ___

Mixed Review

9. Melanie's family took a trip. The first day they drove 140 miles. The second day they drove 210 miles. The third day they drove 120 miles. The last day they drove 190 miles. What was their average daily mileage?

10. Melanie's mother bought 30 gallons of gasoline during their trip. If they drove a total of 660 miles, how many miles did they drive on each gallon of gasoline?

11. If gasoline costs $1.45 a gallon, how much did Melanie's mother spend on gasoline for their trip?

12. How much less would Melanie's mother have spent on gas if gas had cost $1.25 per gallon?
Read and Write Fractions

Vocabulary

Fill in the blank.

1. A number that names a part of a whole is a _________________.

Write a fraction for the shaded part. Write a fraction for the unshaded part.

2. 3. 4. 5.

6. 7. 8.

Draw a picture and shade part of it to show the fraction. Write a fraction for the unshaded part.

9. \(\frac{2}{6}\) 10. \(\frac{7}{8}\) 11. \(\frac{4}{5}\)

Mixed Review

12. \(\frac{12}{5}\) 13. \(\frac{11}{7}\) 14. \(\frac{9}{8}\) 15. \(\frac{6}{6}\) 16. \(\frac{12}{8}\)

17. \(\frac{85}{5}\) 18. \(\frac{81}{9}\) 19. \(\frac{88}{4}\) 20. \(\frac{144}{12}\) 21. \(\frac{56}{7}\)
Equivalent Fractions

Vocabulary

Fill in the blank.

1. Fractions that name the same amount are called

Use fraction bars or number lines to find at least one equivalent fraction for each.

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

Mixed Review

14. \( 13 - 7 = \) \( \times 3 \) 
15. \( 20 \div \) \( = 14 - 12 \) 
16. \( \) \( + 49 = 81 - 15 \) 
17. \( 4 \times 12 = 48 \div \) 
18. \( 63 + \) \( = 71 + 19 \) 
19. \( 55 \div \) \( = 29 - 24 \) 
20. \( 3 \times 3 \times 3 \times \) \( = 54 \) 
21. \( 4 \times \) \( \times 2 = 32 \) 
22. \( 7 \times 2 \times \) \( = 14 \)
Equivalent Fractions

Vocabulary

Fill in the blank.

1. A fraction whose numerator and denominator can both be divided evenly only by one is in ________________.

Write two equivalent fractions for each.

2. \(\frac{5}{10}\)  
   \(\frac{1}{2}\)  
3. \(\frac{6}{18}\)  
   \(\frac{1}{3}\)  
4. \(\frac{3}{6}\)  
   \(\frac{1}{2}\)  
5. \(\frac{8}{20}\)  
   \(\frac{2}{5}\)

6. \(\frac{4}{12}\)  
   \(\frac{1}{3}\)  
7. \(\frac{10}{20}\)  
   \(\frac{1}{2}\)  
8. \(\frac{1}{4}\)  
   \(\frac{1}{4}\)  
9. \(\frac{9}{36}\)  
   \(\frac{1}{4}\)

Tell whether each fraction is in simplest form. If not, write it in simplest form.

10. \(\frac{3}{4}\)  
    \(\frac{3}{4}\)  
11. \(\frac{3}{6}\)  
    \(\frac{1}{2}\)  
12. \(\frac{4}{5}\)  
    \(\frac{4}{5}\)  
13. \(\frac{3}{7}\)  
    \(\frac{3}{7}\)

14. \(\frac{9}{12}\)  
    \(\frac{3}{4}\)  
15. \(\frac{2}{8}\)  
    \(\frac{1}{4}\)  
16. \(\frac{16}{32}\)  
    \(\frac{1}{2}\)  
17. \(\frac{3}{5}\)  
    \(\frac{3}{5}\)

Find the missing numerator or denominator.

18. \(\frac{6}{12} = \frac{1}{2}\)  
19. \(\frac{3}{9} = \frac{1}{3}\)  
20. \(\frac{3}{12} = \frac{1}{4}\)  
21. \(\frac{5}{15} = \frac{1}{3}\)

22. \(\frac{4}{10} = \frac{2}{5}\)  
23. \(\frac{9}{18} = \frac{1}{2}\)  
24. \(\frac{4}{16} = \frac{1}{4}\)  
25. \(\frac{12}{24} = \frac{1}{2}\)

Mixed Review

Estimate.

26. \(6,834 \times 28\)  
27. \(975 \div 11\)  
28. \(3,210 \times 49\)  
29. \(495 \div 52\)  
29. \(888 \div 29\)  
31. \(9,011 \times 11\)
Compare and Order Fractions

Write the fraction for each model. Then compare, using <, >, or =.

1.  
2.  
3.  

Write <, >, or = in □.

4.  $\frac{1}{3}$ □ $\frac{1}{4}$  
5.  $\frac{5}{6}$ □ $\frac{4}{6}$  
6.  $\frac{1}{2}$ □ $\frac{6}{12}$  
7.  $\frac{3}{4}$ □ $\frac{3}{5}$  
8.  $\frac{2}{5}$ □ $\frac{3}{5}$  
9.  $\frac{1}{8}$ □ $\frac{1}{7}$  
10. $\frac{2}{4}$ □ $\frac{1}{2}$  

Order the fractions from greatest to least. Use the models, fraction bars, or a number line to help you.

12. $\frac{2}{5}$, $\frac{1}{5}$, $\frac{3}{5}$  
13. $\frac{2}{6}$, $\frac{1}{4}$, $\frac{2}{5}$  
14. $\frac{1}{6}$, $\frac{1}{3}$, $\frac{1}{2}$  
15. $\frac{3}{4}$, $\frac{2}{3}$, $\frac{5}{8}$  

Order the fractions from least to greatest.

16. $\frac{3}{12}$, $\frac{4}{10}$, $\frac{2}{3}$  
17. $\frac{5}{8}$, $\frac{1}{2}$, $\frac{2}{3}$  
18. $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{5}$  
19. $\frac{4}{6}$, $\frac{7}{12}$, $\frac{2}{5}$  

Mixed Review

Write each fraction in simplest form.

20. $\frac{3}{12}$  
21. $\frac{5}{25}$  
22. $\frac{6}{18}$  
23. $\frac{7}{49}$  

Solve.

24. $7,919 \times 4$  
25. $4,111 + 16$  
26. $3,219 + 1,808$  
27. $6,425 \times 9$
Problem Solving Strategy

Make a Model

Make a model to solve.

1. The cafeteria made a punch using \(\frac{1}{2}\) gallon of apple juice, \(\frac{5}{8}\) gallon of orange juice, and \(\frac{2}{3}\) gallon of raspberry juice. List the juices in order from greatest to least.

2. A school had 3 music groups, each with 24 students. The choir was made up of \(\frac{1}{3}\) boys, the band was \(\frac{3}{4}\) boys, and the orchestra was \(\frac{5}{8}\) boys. Which music group had the greatest fraction of girls?

3. Kyle bought cookies at a bakery. He bought \(\frac{1}{2}\) dozen oatmeal cookies, \(\frac{2}{3}\) dozen cinnamon cookies, and \(\frac{3}{4}\) dozen chocolate cookies. List each part of a dozen cookies in order from greatest to least.

4. Katrina made a square design with 25 tiles. She used 9 red tiles for the diagonals, 12 yellow tiles to complete the outside border, and 4 blue tiles to complete the center. Show what Katrina’s design looked like.

Mixed Review

Solve.

5. \(13)6,249\)  
6. \(8)9,122\)  
7. \(12)2,424\)  
8. \(4)3,175\)

9. \(12 \times (9 - 3) = \)  
10. \((4 + 4) \times 8 = \)  
11. \((15 - 4) \times 9 = \)
Mixed Numbers

Vocabulary

Fill in the blank.

1. A _____________________________ is made up of a whole number and a fraction.

Write a mixed number for each picture.

2. 3. 4.

Rename each fraction as a mixed number. You may wish to draw a picture.

5. \( \frac{16}{3} \) 6. \( \frac{9}{2} \) 7. \( \frac{17}{6} \) 8. \( \frac{13}{4} \)

For Exercises 9–11, use the figures at the right.

9. How many whole figures are shaded? Into how many equal parts is each figure divided?

10. How many parts in the fifth figure are shaded?

11. What fraction and mixed number can you write for the shaded parts of the figures?

Mixed Review

12. \( 4 \times 4 = \) 13. \( 9 \times 5 = \) 14. \( 8 \times 7 = \) 15. \( 24 \times 1 = \)
16. \( 48 \div 12 = \) 17. \( 66 \div 11 = \) 18. \( 72 \div 9 = \) 19. \( 121 \div 11 = \)
Add Like Fractions

Find the sum.

1. \( \frac{3}{6} + \frac{1}{6} = \) ___
2. \( \frac{1}{8} + \frac{6}{8} = \) ___
3. \( \frac{3}{5} + \frac{4}{5} = \) ___

4. \( \frac{5}{12} + \frac{2}{12} = \) ___
5. \( \frac{6}{10} + \frac{7}{10} = \) ___
6. \( \frac{3}{4} + \frac{2}{4} = \) ___

7. \( \frac{2}{5} + \frac{1}{5} = \) ___
8. \( \frac{5}{9} + \frac{4}{9} = \) ___
9. \( \frac{2}{11} + \frac{4}{11} = \) ___

Compare. Write <, > or = in each circle.

10. \( \frac{2}{9} + \frac{3}{9} \bigcirc \frac{4}{9} \)
11. \( \frac{1}{6} + \frac{2}{6} \bigcirc \frac{1}{2} \)
12. \( \frac{5}{9} + \frac{8}{9} \bigcirc 1 \)

Find the value of \( n \).

13. \( \frac{2}{7} + \frac{4}{n} = \frac{6}{7} \) ______
14. \( \frac{3}{13} + \frac{n}{13} = \frac{9}{13} \) ______
16. \( \frac{9}{n} + \frac{1}{4} = 1 \) ______
15. \( \frac{6}{9} + \frac{1}{n} = \frac{7}{9} \) ______

Mixed Review

17. \( 7 + 7 + 7 + 7 = \) ___
18. \( 12 + 12 + 12 + 12 + 12 = \) ___

19. \( \frac{8}{7} \times 7 \)
20. \( \frac{10}{5} \times 5 \)
21. \( \frac{3}{9} \times 9 \)
22. \( \frac{7}{7} \times 7 \)

Write an equivalent fraction for each.

23. \( \frac{7}{14} \)
24. \( \frac{16}{40} \)
25. \( \frac{12}{36} \)
26. \( \frac{9}{90} \)
27. \( \frac{6}{18} \)
Subtract Like Fractions

Use fraction bars to find the difference.

1. \( \frac{3}{4} - \frac{2}{4} = \) \[
2. \frac{4}{6} - \frac{3}{6} = \)
3. \( \frac{7}{8} - \frac{3}{8} = \)

4. \( \frac{5}{10} - \frac{3}{10} = \)
5. \( \frac{3}{5} - \frac{1}{5} = \)
6. \( \frac{6}{8} - \frac{2}{8} = \)

7. \( \frac{10}{12} - \frac{5}{12} = \)
8. \( \frac{7}{10} - \frac{3}{10} = \)
9. \( \frac{5}{6} - \frac{1}{6} = \)

Find the difference.

10. \[
11. \[
12. \[
13. \[

14. \( \frac{1}{12} + \frac{5}{12} = \)
15. \( \frac{3}{8} + \frac{3}{8} = \)
16. \( \frac{4}{7} + \frac{5}{7} = \)

Mixed Review

17. \( 487 \times 22 \)
18. \( 68 \times 95 \)
19. \( 3,287 \times 17 \)
20. \( 8,061 \times 40 \)

21. \( 15 \div 30 \)
22. \( 5 \div 30 \)
23. \( 3 \div 30 \)
Add and Subtract Mixed Numbers

Find the sum or difference.

1. \( \frac{57}{8} - \frac{23}{8} \)
2. \( \frac{64}{10} + \frac{43}{10} \)
3. \( \frac{93}{4} + \frac{2}{4} \)
4. \( \frac{32}{3} - \frac{1}{3} \)

5. \( \frac{54}{5} + \frac{12}{5} \)
6. \( \frac{86}{8} - \frac{32}{8} \)
7. \( \frac{98}{12} + \frac{64}{12} \)
8. \( \frac{45}{6} - \frac{33}{6} \)

9. \( \frac{78}{9} - \frac{61}{9} \)
10. \( \frac{99}{10} + \frac{52}{10} \)
11. \( \frac{82}{4} + \frac{1}{4} \)
12. \( \frac{310}{12} - \frac{17}{12} \)

13. \( \frac{74}{5} - \frac{3}{5} = \) ________
14. \( \frac{95}{8} + \frac{44}{8} = \) ________
15. \( \frac{46}{9} - \frac{22}{9} = \) ________
16. \( \frac{59}{12} + \frac{23}{12} = \) ________
17. \( \frac{92}{5} + \frac{31}{5} = \) ________
18. \( \frac{67}{10} - \frac{25}{10} = \) ________

Mixed Review

Compare. Write <, > or = in each \( \bigcirc \).

19. \( \frac{61}{7} + \frac{35}{7} \bigcirc 10 \)
20. \( \frac{31}{4} \bigcirc \frac{15}{8} + \frac{15}{8} \)
21. \( \frac{167}{10} - \frac{77}{10} \bigcirc 10 \)
22. \( 48 + 78 \)
23. \( 63 - 57 \)
24. \( 140 - 79 \)
25. \( 224 + 865 \)
26. \( 370 - 263 \)

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Problem Solving Skill

Choose the Operation

Write the operation. Then solve each problem.

1. Henry and Cyndi each ate \( \frac{1}{3} \) of a small cake. What fraction of the cake did they eat?

3. Phillip likes to ride his bike, skateboard, and read in his spare time. He spends \( \frac{2}{8} \) of his time riding his bike and \( \frac{5}{8} \) of his time skateboarding. How much of his spare time does he have left to spend reading?

2. Linda baked a huge cookie for her friends. Sue ate \( \frac{5}{8} \) of the cookie and Mary ate \( \frac{3}{8} \). How much more of the cookie did Sue eat?

4. Mr. Jones baked 12 cupcakes for the class party. Before lunch \( \frac{3}{12} \) of the cupcakes were eaten. After lunch \( \frac{5}{12} \) of the cupcakes were eaten. What fraction of the cupcakes were left for a snack after school?

5. At the end of five days Joseph had saved $30. If each day he saved $2 more than the day before, how much money did Joseph save each day?

6. A series of numbers starts with 2. Each number in the series is two times as great as the number before it. What is the sixth number in the series?

Mixed Review

Solve.

5. At the end of five days Joseph had saved $30. If each day he saved $2 more than the day before, how much money did Joseph save each day?

6. A series of numbers starts with 2. Each number in the series is two times as great as the number before it. What is the sixth number in the series?

7. $20.22 + $15.24
   $38.40 − $19.99
   2,649 − 1,670

8. 10. 9,028 + 3,840
   11. $38.20 − $88.79

9. $20.22 + $15.24
   $38.40 − $19.99
   2,649 − 1,670

10. 9,028 + 3,840
   11. $38.20 − $88.79

Practice PW99
Add Unlike Fractions

Use fraction bars to find the sum.

1.  
2.  
3.  

4.  
5.  
6.  

7.  \( \frac{1}{3} + \frac{1}{6} \)  
8.  \( \frac{5}{8} + \frac{3}{4} \)  
9.  \( \frac{3}{4} + \frac{1}{6} \)  

10.  \( \frac{7}{10} + \frac{2}{5} \)  
11.  \( \frac{4}{10} + \frac{3}{5} \)  
12.  \( \frac{4}{5} + \frac{7}{10} \)  

Mixed Review

13.  \( 19 \div 4,999 \)  
14.  \( 32 \div 6,471 \)  
15.  \( 17 \div 219 \)  
16.  \( 3 \div 8,536 \)  
17.  \( 8 \div 830 \)
Subtract Unlike Fractions

Use fraction bars to find the difference.

1. \[ \frac{1}{2} \]
2. \[ \frac{1}{3} \]
3. \[ \frac{1}{4} \]

4. \[ \frac{1}{3} \]
5. \[ \frac{1}{10} \]
6. \[ \frac{1}{4} \]

7. \[ \frac{4}{5} - \frac{3}{10} = n \]
8. \[ \frac{4}{6} - \frac{5}{12} = n \]
9. \[ \frac{5}{6} - \frac{5}{12} = n \]

10. \[ \frac{1}{2} - \frac{4}{10} = n \]
11. \[ \frac{6}{8} - \frac{1}{2} = n \]
12. \[ \frac{2}{3} - \frac{3}{6} = n \]

13. \[ \frac{1}{2} - \frac{1}{8} = n \]
14. \[ \frac{9}{12} - \frac{2}{3} = n \]
15. \[ \frac{4}{6} - \frac{1}{12} = n \]

16. \[ \frac{7}{8} - \frac{1}{4} = n \]
17. \[ \frac{11}{12} - \frac{1}{3} = n \]
18. \[ \frac{4}{6} - \frac{1}{2} = n \]

Mixed Review

Order from least to greatest.

19. \[ \frac{7}{10}, \frac{5}{10}, \frac{2}{5}, \frac{8}{10} \]
20. \[ 1\frac{1}{3}, 1\frac{6}{3}, 1\frac{1}{6}, \frac{5}{6} \]
21. \[ 1, \frac{4}{10}, \frac{8}{10}, \frac{11}{10} \]
Relate Fractions and Decimals

Write the decimal and fraction shown by each model or number line.

1. [Diagonal line segment from the left to the right, with 8 squares shaded.]
   - Decimal: 0.8
   - Fraction: 8/10

2. [Diagonal line segment from the left to the right, with 7 squares shaded.]
   - Decimal: 0.7
   - Fraction: 7/10

3. [Equal segments of a whole, with 5 shaded segments out of 10.]
   - Decimal: 0.5
   - Fraction: 5/10

4. [Equal segments of a whole, with 6 shaded segments out of 10.]
   - Decimal: 0.6
   - Fraction: 6/10

5. [Decimal number line: 0.1, 0.2, 0.3, 0.4, 0.6, 0.7, 0.8, 0.9, 1.0.]

6. [Decimal number line: 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0.]

Write each fraction as a decimal.

7. \( \frac{6}{10} \) = 0.6

8. \( \frac{8}{10} \) = 0.8

Write the decimal two other ways.

10. 0.2 = 1/5

11. 0.4 = 2/5

12. 0.12 = 3/25

13. 0.66 = 33/50

Mixed Review

14. During his vacation, Brian used 7 rolls of 24-photo film. How many photos did Brian take?

15. If 8 students can sit at one table, how many tables are needed to seat 134 students?

16. \( \frac{17}{17} \) × 17

17. \( \frac{11}{11} \) × 11

18. \( \frac{100}{100} \) × 100

19. \( \frac{18}{18} \) × 18

20. \( \frac{12}{12} \) × 12
Decimals Greater Than 1

Write the decimal and its word name for each model.

1. 2. 3.

Write each mixed number as a decimal and each decimal as a mixed number.

6. \(4\frac{3}{10}\)  
7. \(6\frac{1}{10}\)  
8. \(2\frac{3}{100}\)  
9. \(4\frac{56}{100}\)

10. 2.46  
11. 1.5  
12. \(4\frac{70}{100}\)  
13. 3.4

Find the missing number.

14. \(3.n = 3\frac{2}{10}\)  
15. \(6.90 = 6\frac{n}{100}\)  
16. \(2\frac{20}{n} = 2.20\)  
17. \(8.7 = 8\frac{7}{n}\)

Mixed Review

18. John hiked \(\frac{2}{3}\) miles on Monday and \(\frac{5}{6}\) miles on Tuesday. On which day did he hike farther?

19. Tony has read 45 of the 100 pages in his book. Write a fraction in simplest form to show how much of the book Tony has read.
Equivalent Decimals

**Vocabulary**

Complete.

1. ________________________ are decimals that name the same number.

Are the two decimals equivalent? Write yes or no.

2. 0.4 and 0.40 ______ 3. 0.1 and 0.01 ______

4. 0.50 and 0.5 ______ 5. 0.20 and 0.02 ______

6. 0.3 and 0.30 ______ 7. 0.80 and 0.8 ______

8. 0.9 and 0.90 ______ 9. 0.18 and 0.81 ______

Write an equivalent decimal for each. You may use decimal models.

10. 0.7 11. 0.1 12. 0.60 13. 0.4 14. 0.20

15. 0.8 16. 0.30 17. 0.5 18. 0.90 19. 0.3

Mixed Review

20. \(\frac{7}{10} + \frac{7}{10} = \) ______ 21. \(\frac{4}{5} + \frac{4}{5} = \) ______ 22. \(\frac{8}{9} + \frac{8}{9} = \) ______

23. \(\frac{4}{5} - \frac{3}{5} = \) ______ 24. \(\frac{10}{9} + \frac{5}{9} = \) ______ 25. \(\frac{7}{6} - \frac{2}{3} = \) ______

26. 0.8 + 0.2 = ______ 27. 0.9 - 0.1 = ______ 28. 0.4 + 0.4 = ______
Compare and Order Decimals

Compare. Write <, > or = in each 〇.

1. 0.45 〇 0.35  2. 0.4 〇 0.6  3. 0.9 〇 0.91  4. 0.6 〇 0.64
5. 0.50 〇 0.55  6. 0.7 〇 0.17  7. 0.02 〇 0.22  8. 0.49 〇 0.4
9. 0.32 〇 0.23  10. 0.46 〇 0.47  11. 0.25 〇 0.2  12. 0.02 〇 0.22

Use the number line to order the decimals from greatest to least.

13. 0.45, 0.54, 0.40, 0.04
14. 0.4, 0.5, 0.04, 0.05, 0.45
15. 0.13, 0.31, 0.3, 0.01, 0.03
16. 0.67, 0.7, 0.76, 0.07, 0.6
17. 0.14, 0.24, 0.20, 0.21, 0.04
18. 0.19, 0.20, 0.1, 0.09, 0.29

Mixed Review

19. Rosie’s Umbrella Shop is selling umbrellas for $4.00 off the usual price of $15.00. What is the cost of buying 3 sale umbrellas?

20. To prepare for a presentation, Pete colored $\frac{1}{2}$ of a poster. Rebecca colored $\frac{1}{3}$ of the poster. What fraction still needs to be colored?

Write an equivalent decimal for each.

21. 0.4  22. 0.60  23. 0.8  24. 0.7
Problem Solving Strategy

Use Logical Reasoning

Use logical reasoning to solve.

1. Mr. Berg’s science class grew tomato plants. The recorded heights of the plants were 13 cm, 15 cm, 17 cm, and 20 cm. Jim’s plant was the tallest. Steve’s plant was 2 cm taller than Mark’s. Eric’s plant was the smallest. How tall was Mark’s plant?

2. Four students ran a race in gym class. Erica had the fastest time of 10.5 seconds. The other recorded times were 13 seconds, 15 seconds and 20 seconds. Janie was slower than Erica, but faster than Mike. Joe was the slowest. What were Janie and Mike’s times?

3. Stephanie’s class took a spelling test. The scores were 90, 86, 89, 94, and 100. Stephanie got a higher grade than Mike. Sue scored 3 points higher than Joe. Ellen received the highest score. What was Stephanie’s spelling grade?

4. The Nature Club recorded the number of birds at the bird feeder each day for a week. On Monday the club saw 15 birds. The numbers of birds at the feeder on the other days were 12, 13, 19, and 20. On Tuesday, the club saw the fewest birds. On Wednesday, the club saw fewer birds than on Monday. On Friday, the club saw the most birds. How many birds did the club see on Thursday?

Mixed Review

5. \( \frac{1}{5} + \frac{2}{5} = \)


7. Order from least to greatest: 0.1, 3.00, 0.97, 0.08

8. \( 8 \div 128 \)
Relate Mixed Numbers and Decimals

Use the number line to write an equivalent mixed number or decimal for the given letter.

\[
\begin{array}{ccccccc}
& & & & & & \\
2 & 3 & 3.25 & C & D & 4 & 4.25 & 4.75 & 5 \\
\end{array}
\]


Write a decimal and a mixed number that are equivalent to each decimal model below.

7. Write an equivalent mixed number or a decimal.

9. 12.75 _____ 10. 5.50 _____ 11. \(6\frac{1}{5}\) _____

Mixed Review

12. What digit is in the ten thousands place in the number 24,639?

13. These are Anna’s spelling scores for 1 week: 86, 90, 85, 94, and 80. What is the median?

14. List the first 5 multiples of 3.

15. List the factors of 50.
**Round Decimals**

Round to the nearest whole number or dollar.

1. 6.9  
2. 7.2  
3. $8.32  
4. 9.75  
5. 51.2  
6. 5.9  
7. $84.65  
8. $5.45  

9. thirteen and eleven hundredths  
10. six and ninety-five hundredths  
11. ten and ninety-one hundredths  
12. nine and forty-five hundredths  

Round to the nearest tenth or ten cents.

13. 16.54  
14. 31.25  
15. $46.95  
16. 21.85  
17. $25.64  
18. 49.39  
19. $64.91  
20. $87.39  

**Mixed Review**

Find the sum.

21. $4.29  
22. $6.14  
23. $2.21  
24. $48.19  
25. $11.94  

$4.29 + 7.30 = $11.59  
$6.14 + 0.88 = $7.02  
$2.21 + $2.21 = $4.42  
$48.19 + 27.55 = $75.74  
$11.94 + 36.60 = $48.54  

Find the difference.

26. $8.79  
27. $9.05  
28. $7.12  
29. $34.63  
30. $59.99  

$8.79 - 0.56 = $8.23  
$9.05 - 5.48 = $3.57  
$7.12 - 6.81 = $0.31  
$34.63 - 27.98 = $6.65  
$59.99 - 5.90 = $54.09  

31. Solve for $n$:  
$540 ÷ n = 90  

32. Solve for $n$:  
$(64 - 5) + (12 ÷ 4) = n$
Estimate Sums and Differences

Estimate the sum or difference.

1. 1.5
   + 1.2

2. 1.8
   − 0.6

3. 2.3
   − 0.7

4. 2.94
   − 1.13

5. 23.94
   + 16.98

6. 4.25
   − 0.86

7. 6.45
   − 2.63

8. $5.62
   + $2.81

9. 16.95
   − 3.29

10. 45.41
    − 29.18

11. 1.62
    − 1.34

12. 3.72
    − 1.65

13. 2.36
    − 1.74

14. 3.92
    − 1.69

15. 3.45
    + 2.07

16. 23.41
    − 11.20

17. 2.53
    + 1.56

18. 3.04
    − 1.26

19. 2.82
    + 2.35

20. 4.26
    − 2.39

Mixed Review

Write < or > in each circle.

21. $8.15 +$0.37   $8.50

22. $19.00   $10.75 + $9.00

23. $6.59 +$6.59   $13.20

24. $7.43 +$6.43   $13.90

For 25–26, use the table.

Charley's Football Punt Time in Air

<table>
<thead>
<tr>
<th>Day</th>
<th>Time in Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>3.4 seconds</td>
</tr>
<tr>
<td>Tuesday</td>
<td>2.5 seconds</td>
</tr>
<tr>
<td>Wednesday</td>
<td>1.7 seconds</td>
</tr>
<tr>
<td>Thursday</td>
<td>2.8 seconds</td>
</tr>
<tr>
<td>Friday</td>
<td>4.2 seconds</td>
</tr>
</tbody>
</table>

25. If you rounded all of the punt air times to the nearest second, what would be the time that occurred most often?

26. Estimate the difference between Charley's longest time and his shortest time.
Add Decimals

Write the letter of the model that matches each problem. Solve.

A.  

B.  

C.  

D.  

E.  

F.  

1. \(1.35 + 0.64 = n\)  
2. \(0.7 + 0.6 = n\)  
3. \(0.64 + 0.82 = n\)

4. \(1.59 + 0.43 = n\)  
5. \(0.8 + 0.3 = n\)  
6. \(0.78 + 0.63 = n\)

Find the sum. Estimate to check.

7. \[0.6 + 0.8 = \frac{n}{10} \]
8. \[0.52 + 0.39 = \frac{n}{10} \]
9. \[0.24 + 0.36 = \frac{n}{10} \]
10. \[0.59 + 0.79 = 0.32 \]
11. \[3.72 + 5.88 = 0.32 \]
12. \[0.9 + 0.9 = \frac{n}{10} \]
13. \[45.91 + 12.57 = \frac{n}{10} \]
14. \[0.88 + 0.43 = \frac{n}{10} \]
15. \[31.50 + 14.68 = \frac{n}{10} \]
16. \[21.94 + 10.28 = \frac{n}{10} \]

Mixed Review

17. Sally bought two packages of hamburger. One package was 2.45 pounds and the other was 3.16 pounds. How many pounds of hamburger did she buy?

18. Henry wanted to buy his friend a treat. He had $3.87. If the treat cost $2.65, about how much money did he have left?

19. \(7 \times 7 = \) 
20. \(9 \times 2 = \) 
21. \(4 \times 8 = \)
# Subtract Decimals

Find the difference. Estimate to check.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.9</td>
<td>2</td>
<td>0.64</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>− 0.2</td>
<td></td>
<td>− 0.34</td>
<td></td>
</tr>
</tbody>
</table>

|   |   |   |   |   |   |
|---|---|---|---|---|
| 6 | 1.00 | 7 | 1.62 | 8 | 17.62 | 9 | 1.21 | 10 | 76.43 |
|   | − 0.56 |   | − 0.73 |   | − 9.28 |   | − 0.47 |   | −34.58 |

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4.80 − 0.62</td>
</tr>
<tr>
<td>12</td>
<td>5.99 − 1.03</td>
</tr>
<tr>
<td>13</td>
<td>20.85 − 11.70</td>
</tr>
<tr>
<td>14</td>
<td>13.39 − 12.36</td>
</tr>
</tbody>
</table>

For 15–18, write the missing digits.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>4.____ − ____6 = 2.7</td>
</tr>
<tr>
<td>16</td>
<td>3____.5 − ____2.8 = 18.7</td>
</tr>
<tr>
<td>17</td>
<td>1____.3 − 8.____ = 6.4</td>
</tr>
<tr>
<td>18</td>
<td>____9.2 − ____4 = 11.8</td>
</tr>
</tbody>
</table>

# Mixed Review

19. What fraction is equivalent to 9.40?

20. Joan’s older sister is 1.65 meters tall. Joan is 1.26 meters tall. How much taller is her sister?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>2,875 × 30</td>
</tr>
<tr>
<td>22</td>
<td>7,891 + 9,415</td>
</tr>
<tr>
<td>23</td>
<td>62,730 − 59,881</td>
</tr>
<tr>
<td>24</td>
<td>14,962 + 29,037</td>
</tr>
</tbody>
</table>
Add and Subtract Decimals

Find the sum or difference. Estimate to check.

1. $4.90 + 3.41$
2. $5.20 - 3.45$
3. $5.00 - 2.49$
4. $3.50 + 4.62$
5. $35.91 + 4.00$

6. $6.90 - 3.81$
7. $10.0 - 4.6$
8. $2.60 + 1.75$
9. $5.42 + 1.73$
10. $7.18 + 2.49$

11. $5.98 - $0.50
12. $35.84 - 4.9$
13. $12 - 5.91$

Find the missing number.

14. $3.62 - □ = 1.5$
15. $4.96 - 1.2 = □$
16. $□ + 0.29 = 3.81$

Mixed Review

17. Sylvia ran 50 meters in 9.62 seconds. Linda finished 0.35 seconds later. Ramie’s time was 0.09 seconds more than Linda’s. What was Linda’s time? Ramie’s?

18. Henry bought radish, tomato, and pumpkin seed packages. The radish and tomato seed packages were $0.89 each. The pumpkin seed packages were $1.25 each. How many of each package of seeds did he buy if he spent $4.28 in all?

Multiply each number by 72.

19. $4$
20. $64$
21. $349$
Problem Solving Skill

Evaluate Reasonableness of Answers

1. Heidi works as a park ranger giving hiking tours. The trail is 4.3 miles long. If Heidi walks the trail 15 times each week, which is a reasonable estimate of the total number of miles she hiked?

   A. Heidi hiked 100 miles
   B. Heidi hiked 60 miles

2. Merrilyn is going to the market to buy produce. She needs 5 pounds of apples at $0.99 per pound and 9 pounds of green beans at $1.29 per pound. Which is a more reasonable estimate of how much money she should bring to the market?

   A. $14.00
   B. $32.00

Peter is reading the instructions on how to build a birdhouse. He needs to cut some pieces of wood from a piece of lumber 100 cm long. The first piece should be 38.9 cm long; the second should be 22.5 cm long. How much of the lumber will be left after he makes the two cuts?

3. Which is the best estimate for the combined length of the two cuts?

   A. 70 cm   C. 30 cm
   B. 60 cm   D. 10 cm

4. Which is the best estimate for the length of the lumber left after Peter makes the two cuts?

   F. 40 cm   H. 15 cm
   G. 20 cm   J. 10 cm

Mixed Review

5. Find the prime factors of 12.

   __________________________
   __________________________


   __________________________
   __________________________
   __________________________

7. Write the fact family for 3, 5, and 15.

   __________________________
   __________________________
   __________________________

8. 90,005
   \[ \begin{array}{c} \underline{90,005} \\ -5,842 \end{array} \]

9. \[ \frac{9}{10} - \frac{3}{5} = \]

10. \[ 52 \times 81 \]
Choose the Appropriate Unit

Vocabulary

Complete.

1. Measuring length, width, height, and distance are all forms of ___________ measurement.

2. A(n) ___________ is about the length of a baseball bat.

3. A(n) ___________ is about the distance you can walk in 20 minutes.

4. A(n) ___________ is about the height of a cat.

5. A(n) ___________ is about the length of your thumb from the first knuckle to the tip.

Choose the reasonable unit of measure. Write in., ft, yd, or mi.

6. The length of a calculator is about 4 ________.

7. The height of a flagpole is about 25 ________.

8. The height of a refrigerator is about 2 ________.

9. The distance along the walkathon is 12 ________.

Name the greater measurement.

10. 50 ft or 50 yd

11. 17 mi or 17 yd

12. 243 in. or 243 yd

Select the greater measurement.

Mixed Review

13. \( \frac{1}{6} + \frac{2}{3} \)

14. \( \frac{5}{6} + \frac{2}{3} \)

15. Write \( \frac{10}{15} \) as a fraction in simplest form.

_______  _______  _______
Measure Fractional Parts

Estimate to the nearest inch. Then measure to the nearest \( \frac{1}{8} \) inch.

1. [Image of a measurement tool]

Estimate to the nearest inch. Then measure to the nearest \( \frac{1}{4} \) inch.

2. [Image of a measurement tool]

Order the measurements from least to greatest.

3. \( 4\frac{1}{8} \) in.; \( 3\frac{1}{2} \) in.; \( 4\frac{1}{4} \) in.; \( 4\frac{3}{8} \) in.

4. \( \frac{1}{8} \) in.; \( \frac{1}{2} \) in.; \( \frac{3}{4} \) in.; \( \frac{5}{8} \) in.

Mixed Review

For Problems 5–6, use the tree chart.

5. To the nearest foot, how tall was the tree in the first year? second year? third year? fourth year?

6. Between which two years did the tree grow the most?
Algebra: Change Linear Units

Tell whether you multiply or divide. Complete.

1. 48 in. = _____ ft  
2. 36 ft = _____ yd  
3. 4 yd = _____ in.
4. 3 mi = _____ ft  
5. 3,520 yd = _____ mi  
6. 5 mi = _____ ft
7. 7 ft = _____ in.  
8. 300 ft = _____ yd  
9. 432 in. = _____ yd

Write an equation that can be used to complete each table.
Complete the table.

10. | Feet, f | 3 | 6 | 12 | 15 |
    | Yards, y | 1 | 3 | 5 |

11. | Yards, y | 1,760 |
    | Miles, m | 1 | 3 | 4 |

Compare. Write <, >, or = in the O.

12. 38 in. O 3 ft  
13. 10,000 ft O 4 mi  
14. 100 in O 3 yd

Mixed Review

Add or Subtract.

15. \(5,283 + 467\)  
16. \(3,512 - 468\)  
17. \(7,536 - 207\)  
18. \(4,106 - 314\)

19. \(5,490 - 83\)  
20. \(6,372 + 891\)  
21. \(7,536 + 18\)  
22. \(2,013 - 5\)
Capacity

Vocabulary

Complete.

1. _______________ is the amount a container can hold when filled.
2. Use the words cup, pint, quart, gallon to label each capacity.

Complete the tables. Change the units.

3. | Cup | Pint |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

4. | Pint | Quart |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

5. | Quart | Gallon |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>

Choose the capacity. Write cup, pint, quart, or gallon.

6. __________
7. __________
8. __________

Mixed Review

Round the number to the greatest place value.

9. 3,654 _________
10. 4,399 _________
11. 2,543 _________
12. 17,536 _________
13. 213,502 _________
14. 109,563 _________
Weight

Vocabulary

Complete.

1. A bread truck weighs about 1 _______.
2. A slice of bread weighs about 1 _______.
3. A loaf of bread weighs about 1 _______.

Circle the more reasonable measurement.

4. 1,200 lb or 1,200 oz  5. 10 T or 10 lb  6. 68 oz or 68 lb

Change the unit.

7. 2 lb = ______ oz     8. 4 T = ______ lb     9. 60,000 lb = ______ T
10. 64 oz = ______ lb   11. 1 T = ______ oz    12. 208 oz = ______ lb

Write 3 lb, 5,000 lb, 1,000 lb, or 35 oz to make each equality or inequality true.

13. 3 lb > ______________________  14. 2T < ______________________
15. 5 lb < ______________________  16. 17 lb > ______________________

Mixed Review

Write the product or quotient.

17. 6 × 3 = ______     18. 10 × 3 = ______     19. 6 × 5 = ______
20. 35 ÷ 7 = ______     21. 7 × 6 = ______     22. 18 ÷ 3 = ______
23. 7 × 8 = ______     24. 36 ÷ 6 = ______     25. 8 × 11 = ______
Problem Solving Strategy

Compare Strategies

Draw a picture or make a table to solve.

1. Sarah is making a large pot of soup. She adds 7 quarts of water and 3 pints of tomato juice. How many one-pint servings can be made?

2. Cherie’s town is bagging aluminum cans for recycling. Each bag holds 5 pound of cans. They need to collect 2 tons of cans before their donation will be accepted. How many bags of cans will they need?

3. Roland is buying sod for some patches on his lawn. Each patch needs 4 feet of sod. He buys 5 yards of sod. How many patches can he cover?

4. Karla is making tea for some friends. Each cup of tea uses 1 cup of water. Karla fills a 3-quart pitcher with water. How many teacups can she fill?

5. Along the 30-foot wall, there is a plant every 6 feet. The plants start at one end of the wall. How many plants are there?

6. Henry collected 10 cans in the first hour, 15 cans the second hour, and 20 cans the third hour. If this pattern continues, how many cans will he collect in all in six hours?

Mixed Review

Write the product or sum.

7. $314 \times 4$
8. $236 \times 3$
9. $413 + 37$
10. $207 \times 4$
11. $535 + 493$

12. $537 + 395$
13. $537 \times 5$
14. $716 + 239$
15. $716 \times 9$
16. $375 + 909$
**Linear Measure**

**Vocabulary**

Complete.

1. A(n) ______________ is about the width of your index finger.

2. A(n) ______________ is equal to 10 centimeters and is about the width of an adult’s hand.

3. A(n) ______________ is about the distance from one hand to the other when you stretch out your arms.

4. A(n) ______________ is about the length of 10 football fields.

Use a centimeter ruler or a meterstick to measure each item. Write the measurement and unit of measure you used.

5. length of your desk

6. width of a piece of chalk

7. height of a tree

Choose the most reasonable measurement. Write a, b, or c.

8. ____ width of a head
   a. 2 km
   b. 2 dm
   c. 2 m

9. ____ distance around the school
   a. 1,000 cm
   b. 1,000 km
   c. 1,000 m

10. ____ height of a tree
    a. 5 km
    b. 5 dm
    c. 5 m

11. ____ distance between two towns
    a. 22 km
    b. 22 dm
    c. 22 m

**Mixed Review**

12. \[ \frac{15}{10} \times \frac{12}{12} \]

13. \[ \frac{1,000}{12} \times \frac{12}{12} \]

14. \[ 14.3 - 7.6 \]

15. \[ 13.4 + 16.6 \]

16. \[ 350 \times n = 35,000 \quad n = ____ \]

17. \[ n \times 36 = 360 \quad n = ____ \]
Algebra: Change Linear Units

Complete.
1. \(300 \text{ cm} = \underline{\text{ }} \text{ m}\)
2. \(3 \text{ km} = \underline{\text{ }} \text{ m}\)
3. \(4,000 \text{ m} = \underline{\text{ }} \text{ km}\)
4. \(50 \text{ m} = \underline{\text{ }} \text{ dm}\)
5. \(40 \text{ km} = \underline{\text{ }} \text{ m}\)

Write the correct unit.
6. \(68 \text{ cm} = \underline{\text{ }} \text{ m}\)
7. \(500 \text{ cm} = \underline{\text{ }} \text{ m}\)
8. \(60 \text{ dm} = \underline{\text{ }} \text{ m}\)
9. \(8 \underline{\text{ }} = 8,000 \text{ m}\)
10. \(20 \text{ cm} = \underline{\text{ }} \text{ dm}\)
11. \(3,000 \text{ m} = 3 \underline{\text{ }}\)
12. \(200 \text{ m} = \underline{\text{ }} \text{ cm}\)

Compare. Write >, <, or =.
13. \(12 \text{ m} \underline{\text{ }} \text{ cm}\)
14. \(14 \text{ m} \underline{\text{ }} 140 \text{ cm}\)
15. \(3 \text{ km} \underline{\text{ }} 4,000 \text{ m}\)
16. \(300 \text{ m} \underline{\text{ }} 3,000 \text{ dm}\)
17. \(30 \text{ dm} \underline{\text{ }} 3 \text{ m}\)
18. \(4 \text{ m} \underline{\text{ }} 3 \text{ km}\)

Order from least to greatest.
19. \(2\text{ m}; 100 \text{ cm}; 4 \text{ dm}; 3 \text{ km}\)
20. \(3,000 \text{ m}; 3 \text{ dm}; 300 \text{ km}; 3,000 \text{ cm}\)

Mixed Review

21. Which customary unit of length would be best used to give the distance across a soccer field?

22. Write an expression for 3 times the number of people, \(p\), at the county fair.

23. \[
\begin{array}{c}
84 \\
\times 62
\end{array}
\]

24. \[
\begin{array}{c}
48,588 \\
- 40,315
\end{array}
\]

25. \[
\begin{array}{c}
315 \\
\times 27
\end{array}
\]

26. \[
\sqrt[4]{3,788}
\]

27. \(6\sqrt{973}\)

28. \(8\sqrt{5,800}\)

29. \(12\sqrt{144}\)

30. \(4\sqrt{3604}\)
Capacity

Vocabulary

Complete.

1. A ___________ is about the size of a sports-drink bottle.  
   It contains 1,000 milliliters.

2. A ___________ is about the size of a drop of liquid in an eyedropper.

Choose the more reasonable unit of measure. Write mL or L.

3. wading pool  
4. a soda can  
5. a baby bottle

__________  ____________  ____________

Choose the best estimate. Write a, b, or c.

6.  
7.  
8.  

a. 3mL  b. 30mL  c. 3L  
   a. 42mL  b. 420mL  c. 42  
   a. 62mL  b. 620mL  c. 62L

________  _______  _______

Change to milliliters.

9. 5 L = ______ mL  
10. 70 L = ______ mL  
11. 4 L = ______ mL

Order from greatest to least.

12. 30 L; 30 mL; 300 L  
13. 5,000 mL; 4 L; 30 mL; 20 L

___________  __________

Mixed Review

14. Ron’s car has a 12-gallon gas tank. If gas costs $1.45 per gallon, how much will it cost to fill the tank?

__________

15. A 5-lb bag of flour costs $1.10. A 20-oz bag of flour costs $0.40. Which is the better buy?

__________

16. 5 km = ______ m  
17. 71 cm = ______ m  
18. 98 m = ______ dm
Mass

Vocabulary

Write the letter of the word that is best described.

1. _____ the amount of mass that is about equal to a baseball bat
   a. kilogram (kg)
   b. gram (g)
   c. mass

2. _____ the amount of matter in an object

3. _____ the amount of mass that is about equal to a large paper clip

Choose the more reasonable measurement.

4. 5. 6. 7. 1 g or 1 kg 5 g or 5 kg 200 g or 20 kg 600 g or 600 kg

Change to grams.

8. 3 kg = ________ g 9. 14 kg = ________ g 10. 20 kg = ________ g

Mixed Review

11. One serving of macaroni and cheese is 70 g. How many kilograms are needed to serve 200 people?

12. If 3 servings of macaroni and cheese cost $0.99, how much will it cost to serve 200 people?

13. \( \frac{72}{4,216} \) 14. \( \frac{19}{103} \) 15. \( \frac{10}{20,000} \) 16. \( \frac{24}{1920} \)
Problem Solving Strategy

Draw a Diagram

Draw a diagram to solve.

1. Steve and Sara bought a total of 14 items at the grocery store. Sara bought two more than twice the number of items that Steve bought. How many items did each buy?

2. Mike, Mia, and Emily were reading library books. Mike read 4 books. Mia read 2 more than twice the number of books that Emily read. Emily read 1 book less than Mike. How many books did each person read?

3. Tina, Kevin and Todd flew their kites. Kevin's kite flew 2 meters higher than Todd's. Tina's flew 1 meter lower than half as high as Todd's. Todd's kite flew 300 decimeters high. How high did Tina's and Kevin's kites fly?

4. Jim's family went hiking. Jim was able to hike 5 miles. His Mom and Dad each hiked 1 mile more than three times the distance that Jim hiked. Jim's brother Tim hiked 1 mile less than Jim did. How far did each person hike?

Mixed Review

5. 300 m = ________ cm
6. 400 dm = ________ m
7. 7,000 m = ________ km

8. 20 ft = ________ in
9. 4 lb = ________ oz
10. 1 pt = ________ c
Temperature: Fahrenheit

Use the thermometer to find the temperature.

1. 2. 3.

For 4–7, use a thermometer to find the change in temperature.

4. 0°F and 35°F

5. −10°F and 10°F

6. −5°F and 25°F

7. −15°F and 30°F

Circle the temperature that is a better estimate.

8. A pot of boiling tomato sauce

9. A summer day in Florida

10. An air-conditioned office building

11. Find n:
    \[ n \div 30 = 20 \]

12. Find n:
    \[ (25 + 5) - (10 \div 2) = n \]

Mixed Review

13. 37.4 + 12.9

14. 72.8 + 15.2

15. 27.4 − 18.6

16. 29.9 − 11.9

17. 92.4 − 75.5
Temperature: Celsius

Use the thermometers to find the temperature.

1. 

2. 

3. 

For 4–7, use a thermometer to find the change in temperature.

4. 67°C and −55°C

5. 48°C and −10°C

6. −1°C and 50°C

7. −15°C and 22°C

Circle the temperature that is a better estimate.

8. The ice at the ice rink

−1°C or 65°C

9. Hot water in the tea kettle

30°C or 100°C

10. A nice day for a picnic

15°C or 80°C

Mixed Review

11. What is the difference in temperature in degrees Fahrenheit between the boiling point and freezing point of water?

12. How are these odd numbers alike? 5, 11, 17, 19, 23

13. 25)17,650

14. 22)12,056

15. 17)4,952

16. 29)511,607
Negative Numbers

Use the number line to name the number each letter represents.


Compare. Write < or > in each ⬤.

5. −8 ⬤ +2  6. +8 ⬤ +2  7. 0 ⬤ +2  8. −2 ⬤ +2
9. +9 ⬤ +2  10. +1 ⬤ +8  11. 0 ⬤ −1  12. −2 ⬤ +10

Order the integers from least to greatest.

13. 0, −2, −10, −5  14. 0, −2, +10, +5
15. −2, −8, −10, −7  16. −1, +2, +3, +6

Mixed Review

17. List the factors of 18.

18. 36 × 100

19. What is the difference in temperature between −8° and 8°?

20. Which of these numbers are composite numbers: 25, 31, 54, 79?
Problem Solving Skill

Make Generalizations

Use the heat index table to answer the following questions. The heat index is the temperature it feels like, not the actual temperature.

1. Find the heat index for an air temperature of 90°F with a relative humidity of 70%.

2. What would be the relative humidity if it is 85°F but feels like 98°F out?

3. What would the air temperature be when the relative humidity is 90% and it feels like 80°F?

4. Joe wants to take a walk. There is 60% relative humidity and the air temperature is −32°C. Will he feel warmer or cooler than the air temperature? Explain.

5. What generalizations can you make about the temperature that is read on the thermometer and the temperature you actually feel?

Mixed Review

Compare.

6. $7 \times 9 \bigcirc 126 \div 2$
7. $-7 \bigcirc +5$
8. $3.45 \bigcirc 3.045$
Use a Coordinate Grid

Write the ordered pair for each object on the map.

1. pool  
2. Phil’s house  
3. grocery store  
4. large tree

Plot each ordered pair on the coordinate grid.

5. (1, 1)  
6. (5, 4)  
7. (8, 3)  
8. (9, 9)  
9. (8, 7)  
10. (4, 6)  
11. (3, 5)  
12. (2, 7)

Write the ordered pair for each point on the coordinate grid.

13. point A  
14. point B  
15. point C  
16. point D

Mixed Review

Round each factor. Estimate the product.

17. $24 \times 81 = \underline{\phantom{000}}$  
18. $36 \times 52 = \underline{\phantom{000}}$  
19. $88 \times 11 = \underline{\phantom{000}}$  
20. $45 \times 219 = \underline{\phantom{000}}$  
21. $19 \times 283 = \underline{\phantom{000}}$  
22. $72 \times 72 = \underline{\phantom{000}}$  
23. $39 \times 158 = \underline{\phantom{000}}$  
24. $18 \times 18 = \underline{\phantom{000}}$
Length on the Coordinate Grid

Find the length of each line segment.

1. 

2. 

3. 

4. 

Graph the ordered pairs and connect them. Then, find the length of each line segment.

5. (3, 9), (5, 9) 

6. (4, 3), (4, 6) 

7. (4, 5), (8, 5) 

8. (7, 1), (7, 6) 

Mixed Review

Multiply.

9. $467 \times 34$
10. $313 \times 65$
11. $573 \times 57$
12. $78 \times 35$
13. $743 \times 39$

Circle the numbers that are divisible by 2. Underline the numbers that are divisible by 5.

14. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25
Use an Equation

Do the values given make \( y = 2x + 18 \) true? Write yes or no.

1. (1,20) _____ 2. (2,22) _____ 3. (3,24) _____ 4. (7,24) _____
5. (6,28) _____ 6. (4,26) _____ 7. (9,36) _____ 8. (11,30) _____
9. (5,28) _____ 10. (3,22) _____ 11. (8,32) _____ 12. (10,38) _____

Use the equation to complete each function table.

13. \( y = 4x + 2 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. \( y = (x + 1) - 1 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. \( y = 2x + 5 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>3</th>
<th>6</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. \( y = 3x + 22 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. \( y = 9x + 1 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>1</th>
<th>4</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18. \( y = (x + 2) + 2 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>0</th>
<th>6</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. \( y = (x - 1) + 2 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>1</th>
<th>5</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. \( y = 3x + 14 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>2</th>
<th>4</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. \( y = 8x + 6 \)  

<table>
<thead>
<tr>
<th>Input</th>
<th>( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mixed Review

Add.

22. \[ \begin{array}{c} 345 \hfill + 456 \hfill \\ 1,737 \hfill \end{array} \]
23. \[ \begin{array}{c} 3,657 \hfill + 1,737 \hfill \\ 24 \hfill \end{array} \]
24. \[ \begin{array}{c} 7,324 \hfill + 1,587 \hfill \\ 25 \hfill + 8,732 \hfill \\ 26 \hfill + 3,547 \hfill \end{array} \]
27. \[ \begin{array}{c} 13,216 \hfill + 543 \hfill \\ 28 \hfill + 5,842 \hfill \end{array} \]
29. \[ \begin{array}{c} 3,211 \hfill + 6,544 \hfill \\ 30 \hfill + 8,472 \hfill \\ 31 \hfill + 7,134 \hfill \end{array} \]
Graph an Equation

For 1–3, use the equation \( y = x + 4 \).

1. Complete this function table.

<table>
<thead>
<tr>
<th>Input ( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ( y )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

2. Write the input/output values as ordered pairs \((x, y)\).

3. Graph the ordered pairs on a coordinate grid.

Make a function table. Write the input/output values as ordered pairs using the values 1 through 10 for \( x \). Then graph the ordered pairs on the coordinate grid above.

4. \( y = 2x \)

<table>
<thead>
<tr>
<th>Input ( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ( y )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mixed Review

Solve.

5. \( 9 \overline{3,663} \)
6. \( 25 \overline{10,150} \)
7. \( 76 \overline{6,764} \)

PW132 Practice
Problem Solving Skill

Identify Relationships

For 1–3, use the function tables.

1. Describe the relationship between \( x \) and \( y \).
   
   \[ \begin{array}{c|cccccc}
   \text{Input} & x & 1 & 2 & 3 & 4 & 5 \\
   \text{Output} & y & 2 & 4 & 6 & 8 & 10 \\
   \end{array} \]

2. Describe the relationship between \( x \) and \( y \).
   
   \[ \begin{array}{c|cccccc}
   \text{Input} & x & 1 & 2 & 3 & 4 & 5 \\
   \text{Output} & y & 2 & 3 & 4 & 5 & 6 \\
   \end{array} \]

3. Describe the relationship between \( x \) and \( y \).
   
   \[ \begin{array}{c|cccccc}
   \text{Input} & x & 1 & 2 & 3 & 4 & 5 \\
   \text{Output} & y & 4 & 8 & 12 & 16 & 20 \\
   \end{array} \]

For 4–5, use the graph to the right.

4. What is the relationship between the \( x \) and \( y \) values?
   
   \[ \begin{array}{c|cccccc}
   \text{Input} & x & 1 & 2 & 3 & 4 & 5 \\
   \text{Output} & y & 2 & 3 & 4 & 5 & 6 \\
   \end{array} \]

5. What is the value of \( y \) when \( x = 16 \)?
   
   \[ \begin{array}{c|cccccc}
   \text{Input} & x & 1 & 2 & 3 & 4 & 5 \\
   \text{Output} & y & 4 & 8 & 12 & 16 & 20 \\
   \end{array} \]

Mixed Review

Order from least to greatest.

6. \( \frac{1}{2}, \frac{2}{3}, \frac{1}{6} \)

7. \( \frac{3}{8}, \frac{3}{4}, \frac{3}{10} \)

8. \( \frac{7}{9}, \frac{2}{3}, \frac{6}{6} \)
**Lines, Rays, and Angles**

**Vocabulary**

Fill in the blanks.

1. A ________ is part of a line and has one endpoint.

2. When two rays have the same endpoint, they form an ________.

3. A ________ angle forms a square corner.

4. An ________ angle is less than the measure of a right angle.

5. An ________ angle is greater than the measure of a right angle.

Draw and label an example of each.

6. Point D

7. line MN

8. ray DE

What kind of angle is each? Write right, acute, or obtuse.

9. ________

10. ________

11. ________

12. ________

13. ________

14. ________

**Mixed Review**

15. 0.49 + 0.13

16. 0.76 − 0.58

17. 0.92 − 0.04

18. 0.63 + 0.29

19. 0.50 is ____ of a whole

20. 0.25 is ____ of a whole

21. 0.40 is ____ of a whole
Line Relationships

Vocabulary

Fill in the blanks.

1. ________________ lines are lines that cross each other.

2. ________________ lines intersect to form four right angles.

Name the line relationship you see in each figure. Write intersecting, parallel, or perpendicular lines.

3. ____________________

4. ____________________

5. ____________________

6. ____________________

7. ____________________

8. ____________________

Mixed Review

9. $4\sqrt{22}$

10. $7\sqrt{50}$

11. $9\sqrt{14}$

12. $2\sqrt{75}$

13. $17 \times 15$

14. $2.59 \times 5$

15. $78 \times 9$

16. $3.61 \times 20$
Congruent Figures and Motion

Tell how each figure was moved. Write *slide, flip, or turn*.

1. 

2. 

3. 

Tell whether the two figures are *congruent, similar, or neither*.

4. 

5. 

6. 

7. Copy this figure on dot paper. Then draw figures to show a slide, a flip, and a turn.

Mixed Review

Add or Subtract.

8. \[ \frac{9}{10} + \frac{4}{10} = \] 
9. \[ \frac{1}{4} + \frac{2}{4} = \] 
10. \[ \frac{3}{6} - \frac{2}{6} = \] 
11. \[ \frac{5}{8} - \frac{4}{8} = \] 
12. \[ \frac{9}{14} - \frac{3}{14} = \] 
13. \[ \frac{4}{7} - \frac{1}{7} = \] 
14. \[ \frac{6}{9} + \frac{2}{9} = \] 
15. \[ \frac{3}{5} + \frac{1}{5} = \] 
16. \[ \frac{4}{12} + \frac{6}{12} = \] 

17. \[ 738 + 389 + 388 + 296 = \] 
18. \[ 199 + 309 + 374 + 902 = \] 
19. \[ 422 + 688 + 201 + 114 = \] 
20. \[ 237 + 640 + 888 + 315 = \]
**Symmetric Figures**

Tell whether the figure has rotational symmetry, line symmetry, or both.

1. 2. 3. 

4. 5. 6. 

7. 8. 9. 

---

**Mixed Review**

Write each number in expanded form.

10. 5,654 = ______ + ______ + ______ + ______
11. 9,232 = ______ + ______ + ______ + ______
12. 138,045 = ______ + ______ + ______ + ______ + ______
13. 87,657 = ______ + ______ + ______ + ______ + ______

Solve.

14. \((7 \times 6) \div 2 = \)  
15. \((13 - 8) \times 9 = \)  
16. \(6 + (12 \div 2) = \)

17. 7,614 + 8,093 
18. 21,355 - 9,787
19. 3,630 \(\times\) 41
20. 2,498 \(\times\) 15
Problem Solving Strategy

Make a Model

Use make a model to solve.

1. Laura wants to make the figure below larger and then put it on her folder. Use 1-inch grid paper to help Laura make a larger picture.

2. Wesley wants to decorate a bulletin board in his school hallway. He wants to make a larger picture of the figure below. Use 1-inch grid paper to help Wesley make the picture larger.

3. Make a smaller picture of the figure below. Use $\frac{1}{2}$ cm grid paper to help you make a smaller picture.

4. Make a larger picture of the figure below. Use 1-inch grid paper to help you.

Mixed Review

Add or Subtract.

5. $5.89$
   $+ 7.82$

6. $54.68$
   $+ 92.30$

7. $108.60$
   $- 87.01$

8. $17.92$
   $+ 45.67$

9. $9.07$
   $- 4.88$

10. $8.00$
    $+ 7.45$

11. $34.59$
    $- 28.99$

12. $63.78$
    $+ 87.19$

13. $64.48$
    $- 17.14$
Perimeter of Polygons

Find the perimeter.

1. 
   ![Triangle with sides 3 ft, 3 ft, 3 ft]

2. 
   ![Hexagon with sides 2 cm, 2 cm, 2 cm, 2 cm, 2 cm]

3. 
   ![Polygon with sides 2 in., 2 in., 3 in., 3 in.]

4. 
   ![Rectangle with sides 10 cm, 16 cm, 8 cm, 14 cm]

5. 
   ![Polygon with sides 12 ft, 9 ft, 8 ft, 3 ft]

6. 
   ![Polygon with sides 5 ft, 6 ft, 4 ft, 4 ft, 5 ft, 11 ft]

Mixed Review

Add.

7. \(673 + 360 = 1033\)
8. \(587 + 546 = 1133\)
9. \(129 + 56 = 185\)
10. \(412 + 108 = 520\)
11. \(1481 + 289 = 1770\)

12. \(17 + 14 + 12 = 43\)
13. \(22 + 19 + 21 = 62\)
14. \(16 + 19 + 19 = 54\)
15. \(75 + 53 + 52 = 180\)
16. \(28 + 28 + 92 = 148\)

Subtract.

17. \(871 - 323 = 548\)
18. \(165 - 84 = 71\)
19. \(284 - 189 = 95\)
20. \(831 - 428 = 403\)
21. \(2179 - 871 = 1308\)

22. \(\frac{4}{5} - \frac{2}{10} = \frac{4}{5} - \frac{1}{5} = \frac{3}{5}\)
23. \(\frac{11}{12} - \frac{3}{4} = \frac{11}{12} - \frac{9}{12} = \frac{2}{12} = \frac{1}{6}\)
24. \(\frac{9}{15} - \frac{1}{5} = \frac{9}{15} - \frac{3}{15} = \frac{6}{15} = \frac{2}{5}\)
Estimate and Find Perimeter

Vocabulary

Fill in the blank to complete the sentence.

1. ______________ is the distance around a polygon.

Use a formula to find the perimeter.

2. 
   - 6 mi
   - 3 mi
   - 6 mi

3. 
   - 4 ft
   - 4 ft
   - 4 ft

4. 
   - 4 km
   - 3 km
   - 1 km

5. 
   - 6 in.
   - 4 in.
   - 8 in.

6. 
   - 5 m
   - 5 m
   - 5 m

7. 
   - 14 yd
   - 5 yd
   - 5 yd

8. 
   - 8 ft
   - 8 ft
   - 8 ft

9. 
   - 10 yd
   - 10 yd
   - 10 yd

10. 
    - 8 cm
    - 8 cm
    - 8 cm

11. \( \frac{3}{9} + \frac{2}{9} = \) _____
12. \( \frac{1}{8} + \frac{5}{8} = \) _____
13. \( \frac{9}{10} - \frac{5}{10} = \) _____
14. \( \frac{5}{7} - \frac{3}{7} = \) _____

15. \( 20 \div 0.793 \)
16. \( 19 \times 1,862 \)
17. \( 48 \times 4,376,111 \)
18. \( 17 \times 3,727 \)
Estimate and Find Area

Find the area.

1. \[
\begin{array}{c}
3 \text{ yd} \\
3 \text{ yd} \\
3 \text{ yd}
\end{array}
\]

2. \[
\begin{array}{c}
4 \text{ cm} \\
1 \text{ cm}
\end{array}
\]

3. \[
\begin{array}{c}
8 \text{ in.} \\
5 \text{ in.}
\end{array}
\]

4. \[
\begin{array}{c}
2 \text{ m} \\
6 \text{ m}
\end{array}
\]

5. \[
\begin{array}{c}
2 \text{ cm} \\
3 \text{ cm}
\end{array}
\]

6. \[
\begin{array}{c}
2 \text{ ft} \\
3 \text{ ft}
\end{array}
\]

7. \[
\begin{array}{c}
4 \text{ ft} \\
1 \text{ ft}
\end{array}
\]

8. \[
\begin{array}{c}
8 \text{ mi} \\
3 \text{ mi}
\end{array}
\]

9. \[
\begin{array}{c}
10 \text{ in.} \\
5 \text{ in.}
\end{array}
\]

Mixed Review

Solve.

10. \[
\frac{67}{16}
\]

11. \[
\frac{627}{41}
\]

12. \[
\frac{129}{76}
\]

13. \[
\frac{492}{10}
\]

14. \[
\frac{412}{89}
\]

15. \[
\frac{871}{13}
\]

16. \[
\frac{165}{64}
\]

17. \[
\frac{52}{37}
\]

18. \[
\frac{69}{28}
\]

19. \[
\frac{955}{31}
\]

20. \((7 \times 3) - (4 \times 4) = \\
\_ \\
\)

21. \((12 \times 3) - 15 = \\
\_ \\
\)

22. \((19 + 28) - (8 \times 2) = \\
\_ \\
\)

23. \((17 - 7) + (28 + 3) + (5 \times 5) = \\
\_ \\
\)
Relate Area and Perimeter

Write the area and the perimeter.

1. 2. 3.

For 4–6, find the area and perimeter of each figure. Then draw another figure that has the same area but a different perimeter.

4. 5. 6.

7. Which of the figures below have the same area but different perimeters?

8. Which of the figures below have the same perimeter but different areas?

Mixed Review

Solve.

9. \(\frac{7}{2} + \frac{39}{12} = \) \hspace{1cm} 10. \(\frac{44}{9} - \frac{1}{5} = \) \hspace{1cm} 11. \(\frac{6}{7} - \frac{2}{14} = \)

Circle the prime numbers.

9. 17 33 39 5 142 29 47 30 111 13 52 56 11
Relate Formulas and Rules

Complete for each rectangle.

1. Area = 20 sq in.  
   Length = 4 in.  
   Width = ________

2. Area = 64 sq mi  
   Length = 4 mi  
   Width = ________

3. Area = 100 sq m  
   Width = ________  
   Length = ________

Find the unknown measurement.

4. ?  
   Area = 108 sq cm

5. 16 yd  
   Area = 80 sq yd

6. ?  
   Area = 100 sq mi

7. ?  
   Perimeter = 18 ft

8. 9 yd  
   Perimeter = 36 yd

9. ?  
   Perimeter = 24 cm

Mixed Review

Divide.

10. 8\(\overline{96}\)  
11. 3\(\overline{42}\)  
12. 5\(\overline{90}\)  
13. 9\(\overline{207}\)  
14. 2\(\overline{58}\)

15. 12\(\overline{300}\)  
16. 18\(\overline{144}\)  
17. 6\(\overline{246}\)  
18. 11\(\overline{231}\)  
19. 18\(\overline{270}\)
Problem Solving Strategy

Find a Pattern

Use find a pattern to solve.

1. Alexis is going to put carpet in three of the rooms in her house. How much more does the area of the rooms increase if each room is two times as long and three times as wide as the one before it? Make a table to show how the areas change. Then solve.

   Room 1: L = 4 yd, W = 2 yd
   Room 2: L = 8 yd, W = 6 yd
   Room 3: L = 16 yd, W = 18 yd

2. Douglas has different size picture frames. How does the perimeter change for each of his picture frames when the width increases by 5 inches? Complete the table and solve.

<table>
<thead>
<tr>
<th>Picture Frame Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (in.)</td>
</tr>
<tr>
<td>Frame A</td>
</tr>
<tr>
<td>Frame B</td>
</tr>
<tr>
<td>Frame C</td>
</tr>
<tr>
<td>Frame D</td>
</tr>
</tbody>
</table>

Mixed Review

3. \(15 \times 7 = \) ______
4. \(121 \div 11 = \) ______
5. \(42 \times 8 = \) ______
Faces, Edges, and Vertices

Which solid figure do you see in each?

1. 2. 3.

Copy the drawings. Circle each vertex, outline each edge in red, and shade one face in yellow.

4. 5. 6.

Write the names of the faces and the number of each kind of face of the solid figure.

7. triangular pyramid 8. triangular prism 9. square pyramid

Mixed Review

Find the perimeter of each figure.

10. 11. 12.
Patterns for Solid Figures

Vocabulary
Fill in the blank.

1. A _______ is a two-dimensional pattern of a three-dimensional figure.

Write the letter of the figure that is made with each net.

2. 3. 4. 5. a. b. c. d.

6. Which of the following nets would make a rectangular prism?

a. b. c. d.

Mixed Review
Divide.

7. 10)1,000 8. 14)0 9. 25)475 10. 32)256

11. Franz ate $1\frac{3}{8}$ granola bars. Aimee ate $2\frac{1}{8}$ granola bars. How many granola bars did Franz and Aimee eat in all?
Estimate and Find Volume of Prisms

Find the volume.

1.  
2.  
3.  

4.  
5.  
6.  

7.  
8.  
9.  

Mixed Review

Multiply.

10.  $17 \times 6$
11.  $247 \times 48$
12.  $89 \times 17$
13.  $478 \times 45$
14.  $112 \times 39$
15.  $222 \times 31$
16.  $52 \times 44$
17.  $63 \times 12$
18.  $678 \times 18$
19.  $456 \times 48$
Problem Solving Skill: Too Much/Too Little Information

Decide if the problem has too much or too little information. Then solve the problem if possible.

1. Mr. Stollenwerk has three drawers to store his clothes. He can fit 12 pants in one drawer, 25 shirts in the second drawer, and 19 pairs of socks in the third drawer. Each drawer is 6 feet long, 4 feet wide, and 1 foot high. What is the total volume of the three drawers?

2. There are 90 rocks in Joe’s box. He has 45 different kinds of rocks in his box. The box is 12 inches long, 6 inches wide, and 4 inches high. What is the volume of his box of rocks?

3. Klamo likes to take pictures of animals in her backyard. She has over 100 pictures of animals. She keeps her pictures in a box that is 1 foot high. What is the volume of her box?

4. Spencer puts corn from his garden into wooden boxes. Each box contains 30 ears of corn. Each box is 2 meters long and 1 meter wide. What is the volume of his wooden box?

5. A cereal box weighs 1 pound. It is 12 inches high, 6 inches long, and 2 inches wide. What is the volume of the cereal box?

Mixed Review

Find the area and perimeter of each.

6. 16 ft

7. 9 cm

8. 18 mi
Turns and Degrees

Tell whether the rays on the circle show a $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, or full turn.

1. 2. 3. 4.

Tell whether the figure has been turned 90°, 180°, 270°, or 360°.

5. 6. 7. 8.

Mixed Review

Solve.

4. $2.35 \times 3$  
5. $6.56 \times 9$  
6. $1.87 \times 5$  
7. $0.13 \times 12$  
8. $2.57 \times 2$

14. $12.49 \times 3$  
15. $9.15 \times 8$  
16. $2.73 \times 22$  
17. $1.96 \times 18$  
18. $6.26 \times 6$

19. $3.78 \times 9$  
20. $10.50 \times 9$  
21. $6.89 \times 15$  
22. $1.87 \times 13$  
23. $3.45 \times 15$

24. $\frac{17}{6} = \underline{\hspace{2cm}}$  
25. $\frac{15}{4} = \underline{\hspace{2cm}}$  
26. $\frac{27}{8} = \underline{\hspace{2cm}}$
Measure Angles

Use a protractor to measure the angle.

1. [Diagram of angle XYZ]

2. [Diagram of angle FEG]

3. [Diagram of angle ILK]

4. [Diagram of angle ABC]

5. [Diagram of angle CDE]

6. [Diagram of angle EFG]

Mixed Review

Find the area of the rectangles.

7. [Rectangle with sides 6m and 9m]

8. [Rectangle with sides 4 ft and 2 ft]

9. [Rectangle with sides 56 mi and 78 mi]

10. [Rectangle with sides 68 ft and 51 ft]

11. [Rectangle with sides 99 cm and 32 cm]

12. [Rectangle with sides 14 yd and 18 yd]
Circles

Vocabulary
Define the following words.
1. radius: ________________________________
   ________________________________
2. diameter: ________________________________
   ________________________________

For 3–6, use the drawing and a centimeter ruler.

3. The center of the circle is point _____.
4. The diameter of the circle is line segment _____.
5. Name each radius of the circle. _____, _____, _____,
   or _____
6. The points on the circle are _____, _____, _____, and _____.

7. Draw a circle. Label the center point A.
   Draw a radius AB. Draw a diameter CD.

For 8–9, use Circles R and W.
8. Name the center of each circle. __________
9. Name each radius. ________________

Mixed Review
10. What is the volume of a rectangular prism that has a length of 6 in., a width of 4 in., and a height of 8 in.? ________________
11. A cube has a volume of 64 cubic centimeters. What are the cube’s dimensions? ________________
**Circumference**

Estimate each circumference.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

A wheel has a circumference of 8 inches. It rolls 72 inches. How many complete turns did the wheel make?

**Mixed Review**

Write the number in word form.

11. 7,849 ________________________________
12. 182 ________________________________
13. 1,283 ________________________________
14. 9,634 ________________________________
15. 17,334 ________________________________
Classify Triangles

Classify each triangle. Write *isosceles*, *scalene*, or *equilateral*.

1. ![Triangle with sides 4 in., 6 in., and 4 in.]
2. ![Triangle with sides 1 m and 1 m]
3. ![Triangle with sides 6 yd, 6 yd, and 7 yd]
4. ![Triangle with sides 20 ft and 45 ft]
5. ![Triangle with sides 8 cm, 10 cm, and 9 cm]
6. ![Triangle with sides 23 cm, 23 cm, and 23 cm]
7. ![Triangle with sides 4 mi, 7 mi, and 4 mi]
8. ![Triangle with sides 6 in., 10 in., and 11 in.]
9. ![Triangle with sides 9 ft, 12 ft, and 9 ft]

Classify each triangle by the length of its sides. Write *isosceles*, *scalene*, or *equilateral*.

10. 12 in., 12 in., 12 in.
11. 65 yd, 43 yd, 65 yd
12. 45 mi, 23 mi, 56 mi

Mixed Review

Find the perimeter and area of each figure.

13. ![Rectangle with sides 5 ft, 15 ft, and 5 ft, 15 ft]
14. ![Rectangle with sides 12 mi, 11 mi, and 11 mi, 12 mi]
15. ![Rectangle with sides 21 in., 21 in., and 29 in., 29 in.]
Classify Quadrilaterals

Vocabulary

Fill in the blanks.

1. General __________________ have 4 sides and 4 angles.

2. __________________ have 2 sides that are parallel.

3. __________________ have 2 pairs of parallel sides.
   They have 2 acute angles of the same size and 2 obtuse angles of the same size.

4. A __________________ has 4 congruent sides. Its opposite sides are parallel and it has no right angles.

Classify each figure in as many ways as possible. Write quadrilateral, parallelogram, square, rectangle, rhombus, or trapezoid.

5. 6. 7. 8.

   ______________   ______________   ______________   ______________

Draw an example of each quadrilateral.

9. trapezoid  10. square  11. rhombus

12. parallelogram  13. rectangle  14. general quadrilateral

Mixed Review

15. 250 \times 7
16. 864 \times 5
17. 793 \times 6
18. 122 \times 8
Problem Solving Strategy

Draw a Diagram

Follow the directions.

1. Mrs. Wimmers has 3 marbles that are blue, 4 marbles that are red, and 2 marbles that are both blue and red. She wants to sort her marbles by color. Draw a diagram that sorts the marbles by color.

2. Hannah, Andy, Alexis, Mike, and Katie can play the drums. James, John, Vickie, and Chris can play the trumpet. Patrick, Erin, Alicia, and Sarah can play the drums and the trumpet. Draw a diagram that sorts these students by the instrument they play.

Mixed Review

Add or Subtract.

3. \(6,783 + 3,960\)  
4. \(8,743 - 586\)  
5. \(54,732 + 4,694\)  
6. \(9,275 + 2,392\)  
7. \(14,821 - 4,812\)
Record Outcomes

Use Data

For 1–4, use the table.

Don and Carol organized their outcomes in this table. They used the 3-letter spinner and the 4-number spinner shown.

<table>
<thead>
<tr>
<th>Number</th>
<th>Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>II</td>
</tr>
<tr>
<td>2</td>
<td>III</td>
</tr>
<tr>
<td>3</td>
<td>I</td>
</tr>
<tr>
<td>4</td>
<td>I</td>
</tr>
</tbody>
</table>

1. Name all the possible outcomes for this experiment.

2. How many possible outcomes are there?

3. How many outcomes would there be if they had used a 4-letter spinner?

4. In Don and Carol’s experiment which outcome occurred most often?

Mixed Review

5. \(318,849 + 984,741\)
6. \(52,842 \times 6\)
7. \(17\overline{893}\)
8. \(\frac{5}{12} - \frac{1}{4} = \)_____

9. \(\frac{7}{15} - \frac{9}{30} = \)_____
10. \(2.875 + 0.789\)
11. \(79.32 - 42.98\)
12. \(14\overline{493}\)
Tree Diagrams

For 1–4, you are choosing one of each. Find the number of possible outcomes by making a tree diagram.

1. Higgins the clown, has 3 hats (red, yellow, or blue) to choose from to match his 6 suits (gold, orange, blue, green, purple, and yellow). How many choices does he have?

2. Kathy has 6 different sweaters to wear with her 4 pairs of slacks. How many possible choices does she have?

3. Footwear Choices:
   Shoes: navy, black, or brown
   Socks: white, black, or tan

4. Event choices:
   Events: sports, play, or movie
   Day: Saturday or Sunday

5. Thomas had 8 different combinations of hats and coats. How many hats does he have? How many coats does he have?

6. Julia has a choice of using bibb lettuce or red leaf lettuce for her birthday dinner. In addition, she can choose Italian, Russian, or French salad dressing. How many different combinations are there?

Mixed Review

7. Solve: \((2 \times 4) + (2 \times 2)\)

8. Round 278,150 to the nearest thousand.

9. Compare. Write <, >, or =.
   \[379,560 \ ? \ 379,561\]

10. Solve for \(n\).
    \[20 - (12 - 2) = n\]
Problem Solving Strategy

Make an Organized List

Make an organized list to solve.

1. A spinner is labeled 6, 7, and 8. List all of the possible combinations of spinning it 2 times.

2. Jeanne is writing a report on the computer. She has a choice of 5 different designs for the cover, and 3 different fonts for the report. How many possible ways of creating this report are there?

For 3–6, find the possible outcomes of spinning each pointer one time.

3. How many possible outcomes are there?

4. List all of the possible outcomes.

5. How many possible outcomes would there be if the spinner had 6 numbers?

6. How many of the possible outcomes include the letter F?

Mixed Review

7. The race started at 6:53 P.M. and ended at 7:14 P.M. How long did the race take?

8. Find the sum of $15,666.22 and $14,323.56.

9. Solve: \((6 \times 4) - (3 \times 2)\).

10. Round 4,278,555 to the nearest ten-thousand.
Predict Outcomes of Experiments

Write likely, unlikely, or equally likely for the events.

1. Tossing an even number or tossing an odd number using a cube numbered 1–6.

2. Rolling a prime number on a cube with the numbers 3, 5, 7, 9, 11, and 13.

3. Pulling a yellow marble from a bag with 10 green marbles, 6 red marbles, and one yellow marble.

4. Spinning a 3 on a spinner with the numbers 1, 2, 3, 3, 3, 3, 3, 3, 6, 6.

5. Which 2 types of marbles are you equally likely to pull from the bag of marbles?

6. Which type are you most likely to pull? Why?

For 5–8, look at the pictures.

7. Is it certain or impossible that you could spin a capital letter on the spinner?

8. Is it certain or impossible that you could spin an M on the spinner?

Mixed Review

9. What is the missing number in the sequence?
   \[2, 3, \underline{\quad}, 7, 11\]

Probability as a Fraction

Look at the spinner at the right. Find the probability of each event.

1. The letter C ________________
2. The letter E ________________
3. A vowel ________________
4. A letter in the word CAB ________________
5. The letter F ________________
6. A consonant ________________
7. The letter A ________________

Look at the box of marbles. Write impossible, less likely, more likely, equally likely, or certain for each event and find the probability.

8. A marble that is not red. ________________
9. An orange marble. ________________
10. A green marble. ________________
11. A yellow marble. ________________
12. A marble that is not green. ________________

Mixed Review

13. Amanda bought an oil painting for $45.95 at the church bazaar. How much change will she get from a fifty dollar bill?

14. Add. \(3\frac{1}{2} + 4\frac{2}{3}\)

15. Write <, >, or = for ?.
   
   \[(42 + 7) - 33 \quad ? \quad (64 \div 8) + 7\]

16. Order from least to greatest:
   
   1.34; 1.32; 0.134; 13.2; 1
More About Probability

Use Data

For 1–4, use the spinner and the table.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tally</td>
<td></td>
<td></td>
<td></td>
<td></td>
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1. What is the mathematical probability of the pointer stopping on each letter on the spinner?

   W _____ Y _____

   X _____ Z _____

2. Use the data in the table. Find the experimental probability of the pointer stopping on each letter.

   W _____ Y _____

   X _____ Z _____

3. Use the table to find the experimental probability of the pointer’s stopping on W. How does this compare to the mathematical probability?

4. Compare the experimental probability with the mathematical probability of the pointer’s stopping on X, Y, and Z.

   __________________________________________

   __________________________________________

Mixed Review

5. James is buying a new computer. He is choosing among 3 different hard drives, 4 different printers, and 5 modems. How many possible computer packages could he make?

6. What kind of triangle is shown below?
Test for Fairness

Vocabulary

Fill in the blank.

1. _______________ in a game means that one player is as likely to win as another. Each player has an equal chance of winning.

Tell if each spinner is fair. Write yes or no. If your answer is no, explain.

2. 3.

In Victor’s game, players choose to be either “2” or “3.” Players take turns rolling a number cube labeled 1 to 6. If a player is a “2” and rolls a 2, 4, or 6, he or she scores a point. If a player is a “3” and rolls a 3 or a 6, he or she scores a point.

4. What is the probability of the “2” player scoring a point? the “3” player?

5. Why is this game not fair?

6. How could you change the game to make it fair?

Mixed Review

7. 156 inches = ___?___ feet
8. 156 yards = ___?___ feet

9. \[
\begin{array}{c}
32,845 \\
951,511 \\
+ 314,288
\end{array}
\]

10. \[
\begin{array}{c}
65,849 \\
\times 8
\end{array}
\]

11. \[
2\frac{1}{4} + 4\frac{5}{6} =
\]

PW162 Practice
Problem Solving Skill: Draw Conclusions

1. Jack and Kylie are playing a game with a bag of 10 yellow, green, black, and red marbles. Jack earns 1 point when he draws a yellow marble; Kylie earns 1 point when she draws a green marble. Use the clues to find the colors of the marbles in the bag. Tell whether the game is fair. Explain.

BAG OF MARBLES CLUES

- The probability of drawing a red marble is $\frac{3}{10}$.
- The probability of drawing Jack's color is $\frac{2}{10}$.
- The probability of not drawing Kylie's color is $\frac{9}{10}$.

For 2–3, use the spinner.

Tom and Harry made up rules for a 2-player game using the spinner. Tell if the game is fair or not using probability.

2. Tom's game:
   Player 1 scores 1 point for an odd number
   Player 2 scores 1 point for a prime number

3. Harry's game:
   Player 1 scores 3 points for a composite number
   Player 2 scores 3 points for a factor of 6

Mixed Review

4. What are the factors of 21?

5. Change $\frac{9}{2}$ to a mixed number.

6. Write 0.9 as a fraction.