

# Practice

## *A Plan for Problem Solving*

*Use the four-step plan to solve each problem.*

1. **Sports** “Go Dogs, Go Dogs, Go, Go, Go!” is a cheer for the Bulldogs’ basketball team. If 15 cheerleaders yell the cheer 5 times, how many times is “Go” said?

**Explore:**

**Plan:**

**Solve:**

**Examine:**

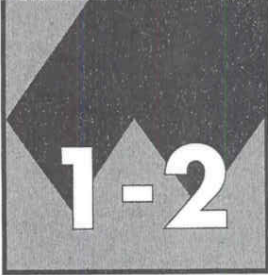
2. **Cooking** A can of orange juice concentrate holds 12 ounces. If you mix it with 3 cans of water, how big a pitcher do you need to hold it all?

**Explore:**

**Plan:**

**Solve:**

**Examine:**



# Practice

## Order of Operations

Name the operation that should be done first in each expression.

1.  $5 + 4 \cdot 7$

2.  $13(6 + 3)$

3.  $(4 - 2) + 6$

4.  $6 \times 8 \div 4$

5.  $32 \div 4 \times 2$

6.  $9(4 + 2) \div 3$

Evaluate each expression.

7.  $8 \cdot 7 + 8 \cdot 3$

8.  $(9 - 3) \div 3$

9.  $8 - 6 + 3$

10.  $18 \div 3 \cdot 6$

11.  $9 - 4 \div 2 + 6$

12.  $24 \div (6 - 2)$

13.  $18 - (7 - 7)$

14.  $32 \div (8 - 4)$

15.  $90 - 16 \div 4$

16.  $3(18 - 12) - (5 - 3)$

17.  $(24 - 10) - 3 \times 3$

18.  $4(22 - 18) - 3 \cdot 5$

19.  $12(5 - 5) + 3 \cdot 5$

20.  $18(4 - 3) \div 3 + 3$

21.  $(34 + 46) \div 20 + 20$

22.  $92 - 66 - 12 \div 4$

23.  $9 \cdot 3 + 8 \div 4$

24.  $9 + (18 \div 3)$

Insert parentheses to make each sentence true.

25.  $32 + 8 \times 3 \div 4 = 30$

26.  $15 - 3 \div 1 \cdot 6 = 2$

27.  $\frac{88}{22} + 8 \div 3 = 4$

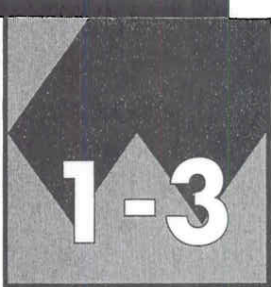
28.  $18 \div 3 + 3 - 2 = 1$

28.  $16 - 8 \div 4 + 10 = 12$

30.  $5 \cdot 5 + 5 - 5 = 45$

31.  $6 + 6 \div 6 \cdot 6 = 42$

32.  $200 - 90 + 80 + 20 = 10$



# Practice

## Integration: Algebra Variables and Expressions

Evaluate each expression if  $x = 5$ ,  $y = 4$ , and  $z = 3$ .

1.  $x + 3$

2.  $z - 3$

3.  $10 - z$

4.  $13 + y$

5.  $x + z$

6.  $y + z$

7.  $y + 3 - z$

8.  $x - 2 + z$

9.  $x - x + 4$

10.  $x - y + 8$

11.  $xy - 2$

12.  $xz - 4$

13.  $yz + 10$

14.  $yz - 10$

15.  $xz + 4$

Evaluate each expression if  $a = 8$ ,  $b = 4$ , and  $c = 2$ .

16.  $a + b + c$

17.  $4b + a$

18.  $cb - a$

19.  $\frac{a}{b} + 5$

20.  $3bc$

21.  $\frac{a}{b} + c$

22.  $\frac{2a}{4} - b$

23.  $3(b + a) - c$

24.  $2b - 3c$

25.  $\frac{2b}{c}$

26.  $\frac{6(a + c)}{b}$

27.  $b(b + a) - b$

Evaluate each expression if  $a = 12$ ,  $b = 3$ ,  $c = 4$ ,  $m = 9$ , and  $n = 3$ .

28.  $\frac{m}{n} + 6$

28.  $1mn$

30.  $\frac{a}{c} - b$

31.  $\frac{3n}{m} + 4$

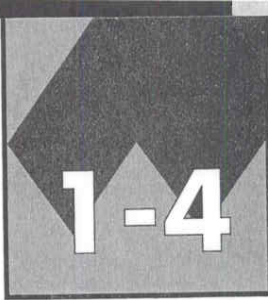
32.  $3(n + n) - m$

33.  $4c - 3b$

34.  $10 - \frac{2m}{n}$

35.  $\frac{3(b + c)}{(b + c)}$

36.  $b(c - b) + c$

**1-4****Practice****Integration: Algebra  
Powers and Exponents**

*Write each power as a product of the same factor.*

1.  $5^4$

2.  $3^5$

3.  $8^4$

4.  $15^4$

5.  $6^7$

6.  $n^4$

*Write each product using exponents.*

7.  $8 \cdot 8 \cdot 8$

8.  $12 \cdot 12 \cdot 12 \cdot 12 \cdot 12 \cdot 12$

9.  $m \cdot m \cdot m \cdot m$

10.  $3 \cdot 3 \cdot 3$

11.  $1 \cdot 1 \cdot 1 \cdot 1 \cdot 1$

12.  $r \cdot r \cdot r \cdot r \cdot r \cdot r \cdot r$

*Evaluate each expression.*

13.  $3^2$

14.  $3^3$

15.  $2^5$

16.  $0^6$

17. 12 squared

18. 3 to the fourth power

19. In 1980, the federal government spent about  $2 \times 10^9$  dollars on school lunches. In 1995, the amount was up to about  $4 \times 10^9$  dollars. How much did the government spend on school lunches in 1995?

*Use a calculator to determine whether each sentence is true or false.*

20.  $4^5 > 5^4$

21.  $6^5 = 5^8$

22.  $5^4 = 10^2$

*Evaluate each expression.*

23.  $y^2$  if  $y = 9$

24.  $m^6$  if  $m = 3$

25.  $x^5$  if  $x = 10$

26.  $z^4$  if  $z = 6$

27.  $x^3$  if  $x = 6$

28.  $y^5$  if  $y = 7$

# 1-5

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### *Integration: Algebra Solving Equations*

*Name the number that is a solution of the given equation.*

1.  $y + 12 = 16$  4, 5, 6

2.  $m - 15 = 23$  8, 38, 18

3.  $12x = 72$  6, 7, 8

4.  $n \div 10 = 11$  9, 100, 110

5.  $44 + s = 92$  48, 58, 52

6.  $15 \times 8 = r$  40, 80, 120

7.  $z \div 11 = 9$  20, 90, 99

8.  $32 - 16 = t$  6, 16, 24

*Solve each equation.*

9.  $x + 42 = 83$

10.  $w - 13 = 77$

11.  $x + 5 = 22$

12.  $q - 12 = 44$

13.  $5m = 35$

14.  $u \div 10 = 100$

15.  $25v = 650$

16.  $14x = 154$

17.  $\frac{84}{m} = 7$

18.  $\frac{y}{10} = 67$

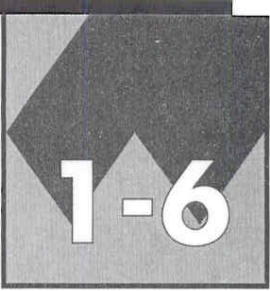
19.  $q - 92 = 138$

20.  $p \div 12 = 9$

21. A number plus 7 is 12. What is the number? Use the equation  $x + 7 = 12$ .

22. The quotient of a number and 19 is 6. Find the number. Use the equation  $\frac{y}{19} = 6$ .

23. Consider the equation  $1 \cdot x = y$ . What can you say about  $x$  and  $y$ ?



# Practice

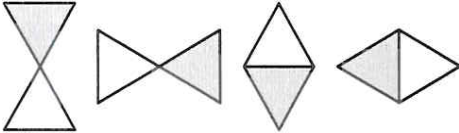
## Integration: Geometry Fractals and Other Patterns

Draw the next two figures that continue each pattern.

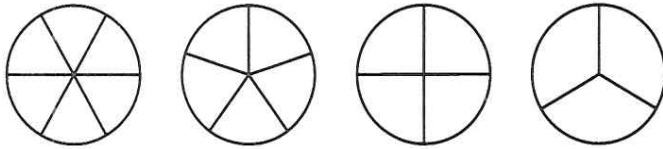
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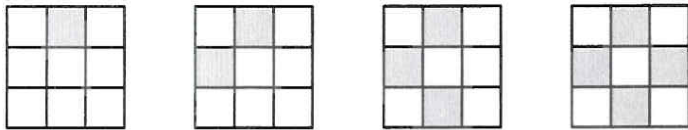
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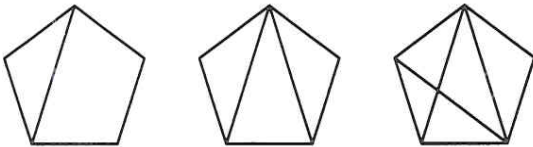
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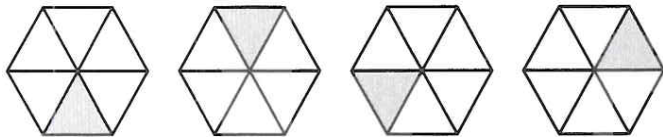
4.



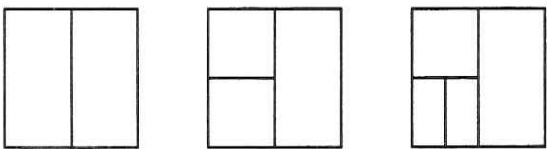
5.



6.



7.

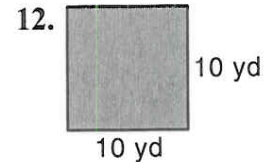
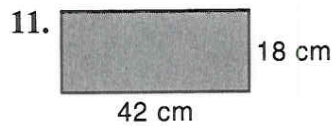
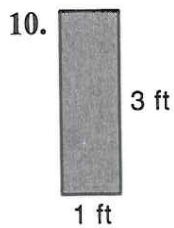
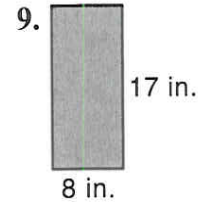
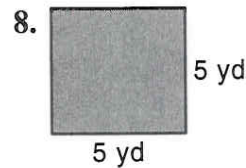
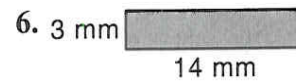
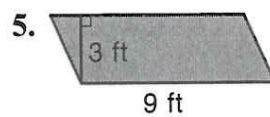
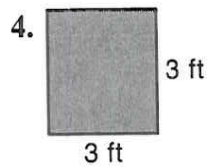
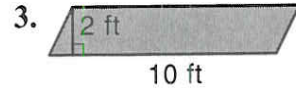
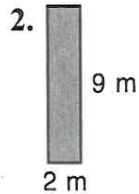
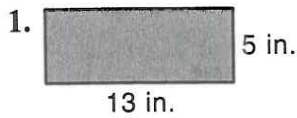




# Practice

## Integration: Geometry Area

Find the area of each rectangle or parallelogram.



13. rectangle:  $\ell = 2$  in.,  $w = 8$  in.

14. parallelogram:  $b = 24$  ft,  $h = 7$  ft

15. parallelogram:  $b = 2$  yd,  $h = 10$  yd

16. rectangle:  $\ell = 18$  mm,  $w = 12$  mm

17. rectangle:  $\ell = 4$  ft,  $w = 2$  ft

18. parallelogram:  $b = 2$  ft,  $h = 5$  ft

19. What is the length of a rectangle whose area is  $84 \text{ in}^2$  and whose width is 7 inches?

20. Find the height of a parallelogram with a base of 12 yards and an area of  $38 \text{ yd}^2$ .



# Practice

## Comparing and Ordering Decimals

Use a number line to show which decimal is greater.

1. 0.27, 0.29



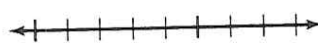
2. 1.3, 1.03



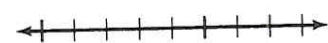
3. 1.02, 0.98



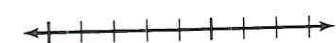
4. 4.42, 4.47



5. 1.305, 1.042



6. 6.12, 6.1



Replace each  $\bigcirc$  with  $<$ ,  $>$ , or  $=$  to make a true sentence.

7. 6.02  $\bigcirc$  6.01

8. 0.39  $\bigcirc$  0.41

9. 6  $\bigcirc$  0.6

10. 0.43  $\bigcirc$  0.34

11. 0.72  $\bigcirc$  0.72

12. 0.0021  $\bigcirc$  0.021

13. 0.34  $\bigcirc$  0.48

14. 5.2  $\bigcirc$  5

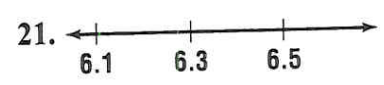
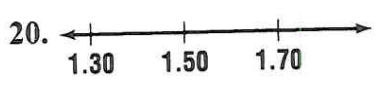
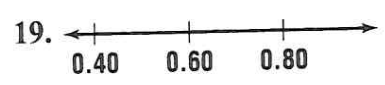
15. 3.7  $\bigcirc$  3.7

16. 1.47  $\bigcirc$  1.47

17. 1.75  $\bigcirc$  0.77

18. 4.52  $\bigcirc$  0.98

Write a sentence comparing two of the numbers shown on the number line.



Order each set of numbers from least to greatest.

22. 4.03, 4.003, 4.3

23. 0.82, 1.2, 0.92

24. 1.12, 1.135, 1.02

25. 13.72, 1.372, 137.2

26. 6.5, 0.65, 0.065

27. 7.9, 3.46, 9.87, 2.1



**Practice*****Rounding Decimals***

***Round each number to the underlined place-value position.***

1. 0.235

2. 3.492

3. 8.0769

4. 9.4

5. 17.145

6. 0.392

7. 19.3208

8. 0.0063

9. 16.742

10. 6.13982

11. 0.336

12. 1.873

13. 0.892

14. 0.444

15. 67.903

16. 84.590

17. 5.129806

18. 99.105

19. 62.017

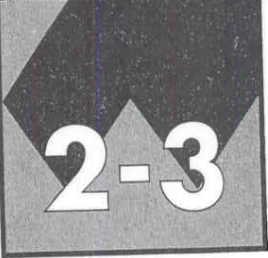
20. 0.129866

21. 37.09

22. Draw a number line to show that, when rounded to the nearest whole number, 9.8 rounds to 10.

23. The Sears Tower, once the world's tallest building, is 1,454 feet tall. Round this height to the nearest 100 feet.

24. In 1990, the population of St. Louis, Missouri, was 396,685. Round this number to the nearest ten thousand and to the nearest hundred thousand. How do the numbers compare?

**Practice****Estimate with Decimals****Estimate by rounding.**

1. 
$$\begin{array}{r} 5.98 \\ +9.82 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 8.2 \\ \times 9.1 \\ \hline \end{array}$$

3.  $6.8 \overline{)49.42}$

4.  $7.2 \overline{)84.1}$

5.  $29.8 \overline{)986.24}$

6.  $6.3 \overline{)89.92}$

**Estimate by clustering.**

7.  $71.1 + 69.8 + 70.9$

8.  $6.8 + 7.3 + 7.1$

9.  $15.2 + 14.9 + 14.8$

**Estimate. Use an appropriate strategy.**

10. 
$$\begin{array}{r} \$9.82 \\ 8.71 \\ +6.18 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 2.4 \\ +8.87 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 29.53 \\ -18.12 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 8.9 \\ \times 6.1 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 27.2 \\ \times 9.7 \\ \hline \end{array}$$

15.  $5.3 \overline{)39.61}$

16.  $3.1 + 2.9 + 2.87 + 3.3$

17.  $81.2 + 79.9 + 80.22$

18.  $30.2 \overline{)119.1}$

**2-4****Practice****Multiplying Decimals**

Place the decimal point in each product.

1.  $1.47 \times 6 = 882$

2.  $0.9 \times 2.7 = 243$

3.  $6.48 \times 2.4 = 15552$

Multiply.

4. 
$$\begin{array}{r} 0.6 \\ \times 0.7 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 6.3 \\ \times 5.1 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 18.2 \\ \times 0.51 \\ \hline \end{array}$$

7.  $0.52 \times 0.03$

8.  $0.29 \times 29.1$

9.  $6.1 \times 0.0054$

10.  $6.8 \times 0.39$

11.  $3.57 \times 0.09$

12.  $3.72 \times 8.4$

Solve each equation.

13.  $t = 0.32 \times 0.05$

14.  $6.4 \times 3.9 = h$

15.  $k = 0.09 \times 2.3$

16.  $a = 0.4 \times 9$

17.  $0.23 \times 0.003 = m$

18.  $1.09 \times 6.24 = v$

Evaluate each expression if  $a = 0.4$  and  $b = 5.8$ .

19.  $0.48 \cdot a$

20.  $b \cdot 13.8$

21.  $0.003 \cdot a$

22.  $1.4 \cdot b$

23.  $3.6 \cdot a$

24.  $24.5 \cdot a$

**Practice*****Powers of Ten******Multiply mentally.***

1.  $15.24 \times 10$

2.  $2.48 \times 0.1$

3.  $0.702 \times 100$

4.  $0.9 \times 0.001$

5.  $5.149 \times 1,000$

6.  $0.52 \times 100$

7.  $2.587 \times 10^0$

8.  $0.2674 \times 100$

9.  $1.5 \times 0.01$

10.  $6.8 \times 10^2$

11.  $9.57 \times 10^4$

12.  $6.2 \times 10^5$

***Solve each equation.***

13.  $d = 0.92 \times 100$

14.  $12.43 \times 0.01 = h$

15.  $h = 3.68 \times 10^6$

16.  $a = 0.004 \times 10^2$

17.  $0.23 \times 1,000 = j$

18.  $1.89 \times 10^0 = v$

19.  $2.098 \times 0.1 = b$

20.  $s = 2.69 \times 10$

21.  $m = 963.2 \times 10^4$

22.  $c = 20.18 \times 0.0001$

23.  $e = 100 \times 0.4$

24.  $f = 1,000 \times 82.9$

# 2-6

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice

### Dividing Decimals

Without finding or changing each quotient, change each problem so that the divisor is a whole number.

1.  $0.84 \div 0.2$

2.  $1.02 \div 0.3$

3.  $3.9 \div 1.3$

4.  $13.6 \div 0.003$

5.  $1.622 \div 1.4$

6.  $0.00025 \div 0.035$

Divide.

7.  $0.5 \overline{)9.5}$

8.  $0.8 \overline{)0.048}$

9.  $0.4 \overline{)82}$

10.  $3.5 \overline{)2.38}$

11.  $0.62 \overline{)600.16}$

12.  $0.015 \overline{)0.06}$

13.  $1.4 \overline{)121.8}$

14.  $8 \overline{)0.0092}$

15.  $0.38 \overline{)760.38}$

Solve each equation.

16.  $7.8 \div 2.6 = k$

17.  $3.92 \div 0.08 = m$

18.  $s = 149.73 \div 0.23$

19.  $v = 155 \div 0.1$

20.  $c = 1,098 \div 6.1$

21.  $3,633.4 \div 3.7 = d$

22.  $903.6 \div 25.1 = n$

23.  $363.6 \div 5 = r$

24.  $2.004 \div 0.2 = b$

25.  $w = 84.7 \div 3.85$

26.  $165.2 \div 8.26 = t$

27.  $29.28 \div 1.22 = s$

## Practice

**Decimals and Fractions****Write each repeating decimal using bar notation.**

1. 0.4666666...

2. 0.5833333...

3. 0.1272727...

**Express each fraction or mixed number as a decimal. If the decimal is a repeating decimal, use bar notation.**

4.  $\frac{3}{5}$

5.  $\frac{19}{20}$

6.  $3\frac{4}{5}$

7.  $\frac{23}{50}$

8.  $1\frac{5}{8}$

9.  $\frac{19}{25}$

10.  $\frac{46}{180}$

11.  $\frac{24}{40}$

12.  $\frac{7}{8}$

13.  $14\frac{37}{50}$

14.  $8\frac{7}{8}$

15.  $3\frac{8}{9}$

**Replace each  $\bigcirc$  with  $<$ ,  $>$ , or  $=$  to make a true sentence.**

16.  $\frac{1}{4} \bigcirc \frac{9}{40}$

17.  $11\frac{13}{40} \bigcirc 11\frac{3}{8}$

18.  $1\frac{3}{8} \bigcirc 1.375$

19.  $\frac{2}{25} \bigcirc \frac{22}{250}$

20.  $2.78 \bigcirc 2\frac{39}{50}$

21.  $\frac{3}{10} \bigcirc \frac{29}{100}$

**Practice****Integration: Measurement  
The Metric System****Complete.**

1. 470 mm = \_\_\_\_\_ cm
2. 63.5 km = \_\_\_\_\_ m
3. 612 g = \_\_\_\_\_ kg
4. 12.8 g = \_\_\_\_\_ mg
5. 8 L = \_\_\_\_\_ mL
6. 68.2 kg = \_\_\_\_\_ g
7. 0.8 L = \_\_\_\_\_ mL
8. 65 km = \_\_\_\_\_ m
9. 30 g = \_\_\_\_\_ kg
10. 368 mL = \_\_\_\_\_ L
11. 84 cm = \_\_\_\_\_ mm
12. 15.4 cm = \_\_\_\_\_ m
13. 43 m = \_\_\_\_\_ cm
14. 92 kg = \_\_\_\_\_ g
15. 3 L = \_\_\_\_\_ mL
16. 24 cm = \_\_\_\_\_ m
17. 9 m = \_\_\_\_\_ cm
18. 53 km = \_\_\_\_\_ m
19. 9.5 kg = \_\_\_\_\_ g
20. 1.5 L = \_\_\_\_\_ mL
21. 9,876 g = \_\_\_\_\_ kg
22. 1.1 m = \_\_\_\_\_ cm
23. 2.3 mm = \_\_\_\_\_ cm
24. 6,200 cm = \_\_\_\_\_ m
25. How many milliliters are in 0.09 liters?
26. How many centimeters are in 9.02 kilometers?
27. How many millimeters are in 4.2 kilometers?
28. How many milligrams are in 0.012 kilograms?

**Practice*****Scientific Notation***

***Write each number in scientific notation.***

1. 930

2. 500

3. 3,500

4. 8,500

5. 62,000

6. 125

7. 7,435

8. 698

9. 40,800

10. 900,000

11. 10,075

12. 721,500

13. 7,895,000

14. 58,000

15. 97,021

16. 85,700

17. 174,000,000

18. 220,000

19. 8,200,000

20. 241

21. 48,000,000

22. 29,830

23. 854,000,000

24. 3,142

25. 68,000,000

26. 9,170,000

27. 5,023,000