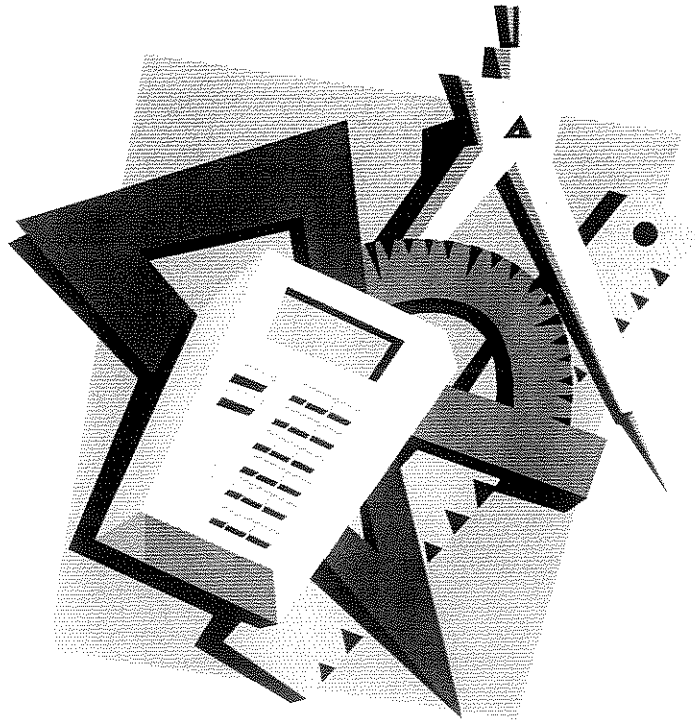


Winter Break



Math Practice

Practice Worksheet 1-7

Order of Operations

Name the operation that should be done first.

1. $5 + 4 \cdot 7$

2. $13(6 + 3)$

3. $(4 - 2) + 6$

4. $6 \times 8 \div 4$

5. $32 - 4 \div 2$

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. $9 + (18 \div 3)$

Use your calculator to determine where to insert parentheses to make each sentence true. You may use the parentheses keys.

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

29. $16 - 8 \div 4 + 10 = 12$

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

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

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

Practice Worksheet 1-8

Algebra Connection: 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. $\frac{m}{n} + 6$

29. $1mn$

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. $b(c - b) + c$

Practice Worksheet 1-9

Algebra: Powers and Exponents

Write each power as a product.

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

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 1970, the government spent about 9×10^9 dollars on child nutrition (including school lunches). In 1979, the amount was up to about 4×10^{10} dollars. How much did the government spend on child nutrition in 1979?

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 $y = 7$

Practice Worksheet 2-2

Rounding Decimals

Round each number to the place indicated. Draw a number line to support your decision.

- 0.235; Round to the nearest tenth.
- 3.492; Round to the nearest hundredth.
- 8.0769; Round to the nearest thousandth.

Round each number to the underlined place-value position.

- | | | |
|----------------------|-----------------------|---------------------|
| 4. <u>9</u> .4 | 5. 17.1 <u>4</u> 5 | 6. 0. <u>3</u> 92 |
| 7. 19.3 <u>2</u> 08 | 8. 0.00 <u>6</u> 3 | 9. 16. <u>7</u> 42 |
| 10. 6.139 <u>8</u> 2 | 11. 0.3 <u>3</u> 6 | 12. 1. <u>8</u> 73 |
| 13. 0. <u>8</u> 92 | 14. 0.4 <u>4</u> 4 | 15. 67. <u>9</u> 03 |
| 16. <u>8</u> 4.590 | 17. 5.12 <u>9</u> 806 | 18. <u>9</u> 9.105 |
| 19. <u>6</u> 2.017 | 20. 0. <u>1</u> 29866 | 21. <u>3</u> 7.09 |
22. Draw a number line to show that, when rounded to the nearest whole number, 9.8 rounds to 10.
23. The Sears Tower, 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?

Subtracting Decimals

Name: _____ Date: _____

When the decimal numbers do not have the same number of decimal digits, you can fill in the spaces with zeros. You can then subtract the columns normally.

Example:

$$\begin{array}{r} 10 \\ - 9.61 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} 10.00 \\ - 9.61 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} \overset{0}{1} \overset{9}{0} \overset{9}{0} \overset{10}{0} \\ \cancel{10.00} \\ - 9.61 \\ \hline .39 \end{array}$$



Fill in the spaces to the right of the decimal with zeros, then subtract.

(1)
$$\begin{array}{r} 10 \\ - 3.1 \\ \hline \end{array}$$

(2)
$$\begin{array}{r} 78 \\ - 55.4 \\ \hline \end{array}$$

(3)
$$\begin{array}{r} 90 \\ - 22.3 \\ \hline \end{array}$$

(4)
$$\begin{array}{r} 3.7 \\ - 1.56 \\ \hline \end{array}$$

(5)
$$\begin{array}{r} 100 \\ - 31.8 \\ \hline \end{array}$$

(6)
$$\begin{array}{r} 2 \\ - 1.1 \\ \hline \end{array}$$

(7)
$$\begin{array}{r} 3 \\ - 1.2 \\ \hline \end{array}$$

(8)
$$\begin{array}{r} 5 \\ - 3.1 \\ \hline \end{array}$$

(9)
$$\begin{array}{r} 7 \\ - 2.2 \\ \hline \end{array}$$

(10)
$$\begin{array}{r} 9 \\ - 4.16 \\ \hline \end{array}$$

(11)
$$\begin{array}{r} 6.8 \\ - 3.43 \\ \hline \end{array}$$

(12)
$$\begin{array}{r} 90 \\ - 23.3 \\ \hline \end{array}$$

(13)
$$\begin{array}{r} 8 \\ - 3.1 \\ \hline \end{array}$$

(14)
$$\begin{array}{r} 67 \\ - 31.3 \\ \hline \end{array}$$

(15)
$$\begin{array}{r} 90 \\ - 31.2 \\ \hline \end{array}$$

(16)
$$\begin{array}{r} 7 \\ - 5.75 \\ \hline \end{array}$$

(17)
$$\begin{array}{r} 9.9 \\ - 5.32 \\ \hline \end{array}$$

(18)
$$\begin{array}{r} 66 \\ - 41.1 \\ \hline \end{array}$$

(19)
$$\begin{array}{r} 9 \\ - 2.1 \\ \hline \end{array}$$

(20)
$$\begin{array}{r} 4 \\ - 2.2 \\ \hline \end{array}$$

Practice Worksheet 2-4

Multiplying Decimals

Place the decimal point in each answer.

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. 0.52×0.03

8. 0.29×29.1

9. 6.1×0.0054

10. 6.8×0.39

11. 3.57×0.09

12. 3.72×8.4

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. $14 \cdot b$

23. $3.6 \cdot a$

24. $24.5 \cdot a$

Practice Worksheet 2-7

Dividing Decimals

Without finding 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. $w = 84.7 \div 3.85$

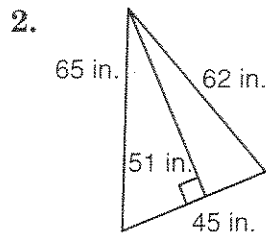
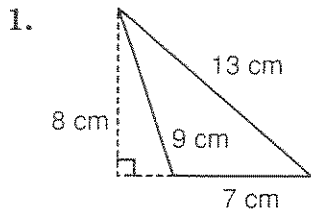
26. $165.2 \div 8.26 = t$

27. $29.28 \div 1.22 = s$

Practice Worksheet 9-7

Area of Triangles and Trapezoids

Find the area of each triangle.



3. base: 12 ft
height: 7 ft

4. base: 17 m
height: 6 m

5. base: 5 km
height: 13 km

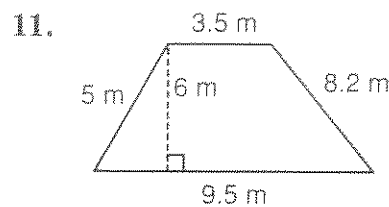
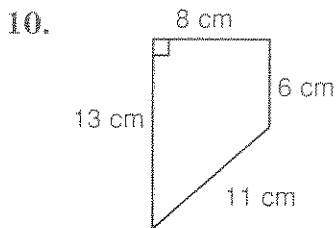
6. base: $3\frac{1}{2}$ in.
height: $1\frac{5}{8}$ in.

7. base: 3.9 mm
height: 7.2 mm

8. base: 10 yd
height: 20 yd

9. base: 7 km
height: 4.2 km

Find the area of each trapezoid.



12. bases: 6 ft, 10 ft
height: 3 ft

13. bases: 10 in., 13 in.
height: 7.5 in.

14. bases: 8.4 m, 9.1 m
height: 12.8 m

15. bases: $4\frac{1}{3}$ ft, $2\frac{1}{4}$ ft
height: 6 ft

16. bases: 12 yd, 7 yd
height: 15 yd

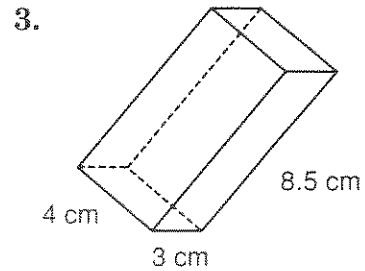
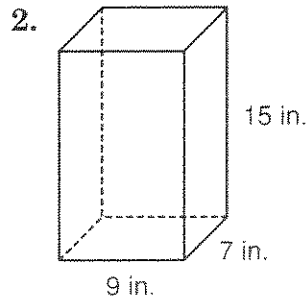
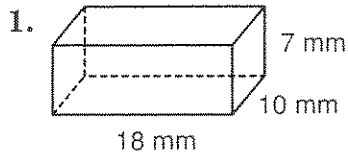
17. bases: 35 in., 15 in.
height: 30 in.

18. bases: 7.1 m, 3.2 m
height: 6.8 m

Practice Worksheet 10-3

Surface Area of Prisms

Find the surface area of each rectangular prism. Round decimal answers to the nearest tenth.



4. length, 2 m
width, 6 m
height, 9.5 m

5. length, 7 yd
width, 2 yd
height, 5 yd

6. length, $2\frac{1}{2}$ in.
width, $1\frac{1}{4}$ in.
height, 4 in.

7. length, 16.4 cm
width, 12.3 cm
height, 10.9 cm

8. length, $3\frac{1}{2}$ ft
width, $1\frac{1}{3}$ ft
height, $2\frac{1}{2}$ ft

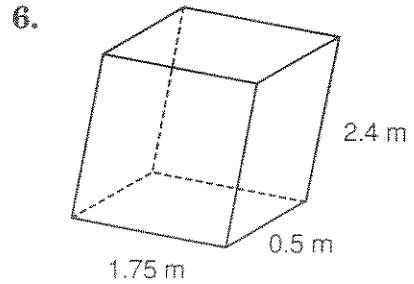
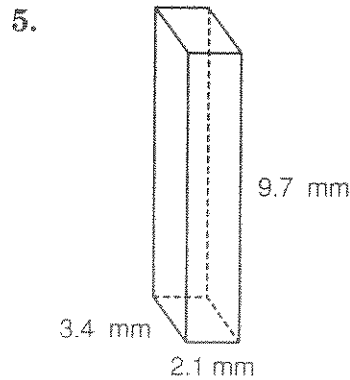
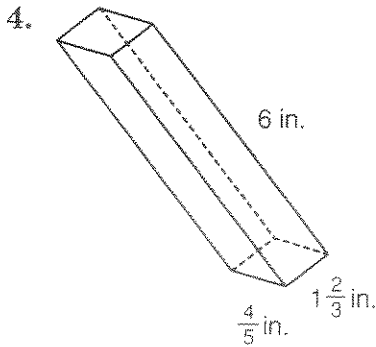
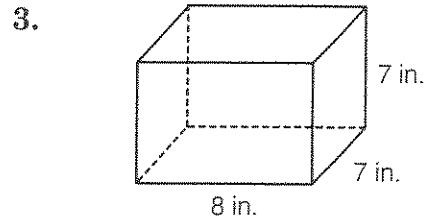
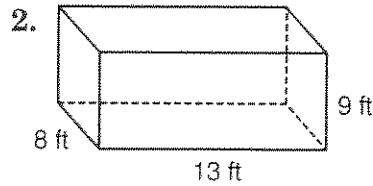
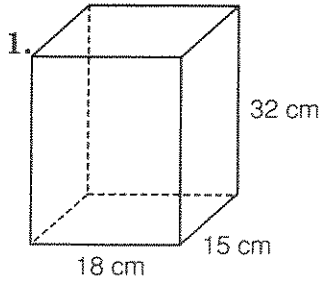
9. length, 38 mm
width, 32 mm
height, 15 mm

10. Each face of a cube has an area of 12 square inches. What is the surface area of the cube?
11. A cube has a surface area of 108 square feet. What is the area of one face?

Practice Worksheet 10-5

Volume of Prisms

Find the volume of each rectangular prism. Round decimal answers to the nearest tenth.



7. length, 8 mm
width, 12 mm
height, 10 mm

8. length, 7.5 cm
width, 6.2 cm
height, 8.1 cm

9. length, 9 ft
width, 7 ft
height, 12.5 ft

10. length, 7.6 in.
width, 8.4 in.
height, 15 in.

11. length, 16 cm
width, 16 cm
height, 12 cm

12. length, 18.3 cm
width, 27 cm
height, 21 cm

13. A cube has sides that are 9.2 inches long. What is the volume of the cube?