

1. Put the correct symbol (+, -, •, ÷ or =) after each word:

a. product •

d. Is the same as =

b. difference —

e. twice × (times by 2)

c. quotient ÷

f. Sum +

#2-5, write an equation for each situation, then solve the problem.

2. A plumber charges \$30 to drive to your house and a certain amount per hour. If he worked for three and a half hours and the total bill was \$292.50, what was the hourly fee?

Equation: $30 + 3.5(x) = 292.50$

Solution: $\$75$

3. A new tent costs \$389, but there is also sales tax of 5.5%. What is the total cost of the tent?

Equation: $389 + .055(389) = x$

Solution: ~~410.3~~

$\$410.40$

4. You wisely invest your first paycheck in the stock market. You buy stock in **Bank of America** for \$23.43 per share and you buy some stock in **3Com** for \$8.40 per share. The Bank of America stock lost \$1.05 per share in the first week, but the 3com stock gained \$0.45 per share. If the stocks continue to change at the same rates, when will their values be equal?

Equation: $23.43 - 1.05x = 8.40 + .45x$
 $15.03 = 1.5x$

Solution: 10.02 weeks

5. When Joey Chesnut (the Hotdog Eating Champ of the World) was practicing he eat 21 hotdogs in 6 minutes. Joey was wondering how many hot dogs he should be able to eat in 10 minutes.

Equation: $\frac{21}{6} = \frac{x}{10}$
 $210 = 6x$

Solution: 35 hot dogs

6. Leonhard Euler discovered that the number of faces (F) and vertices (V) on a polyhedron was always equal to the number of edges (E) plus 2. Here's the formula: $F + V = E + 2$. If a prism has 10 vertices and 15 edges, how many faces does it have?

$$F + 10 = 15 + 2$$

$$F + 10 = 17$$

$$F = 7$$

7. 4.75 liters = 10 pints

$$\frac{10 \text{ pints}}{1} \left(\frac{1 \text{ Q}}{2 \text{ pt}} \right) \left(\frac{1 \text{ gal}}{4 \text{ Q}} \right) \left(\frac{3.78 \text{ L}}{1 \text{ gal}} \right) = \frac{38}{8} = 4.75$$

Liquid Volume Measures	
3 tsp	1 TB
16 TB	1/2 pint
1 pint	16 ounces
2 pint	1 quart
4 quart	1 gallon
1 gallon	3.8 liters

8. A grocery store bagboy always tries to put X items in each bag. If your purchase filled W bags, write an algebra expression for how you would calculate the number of items you purchased.

$$W \cdot X \quad \text{or} \quad WX \quad \text{or} \quad XW \quad \text{or} \quad (X)(W)$$

9. Walter Payton has been clocked at 4 seconds in the 40 (40 yd). How many miles per hour is this?

$$\frac{40 \text{ yd}}{4 \text{ sec.}} \left(\frac{3 \text{ ft}}{1 \text{ yd}} \right) \left(\frac{1 \text{ mi}}{5280 \text{ ft}} \right) \left(\frac{60 \text{ sec}}{1 \text{ min}} \right) \left(\frac{60 \text{ min}}{1 \text{ hr}} \right) = \frac{432000}{21120}$$

$$20.45 \text{ mph}$$