

## 2.3 Solving Literal Equations and Formulas

Remember, to solve linear equations we “get rid of”

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Use these procedures to evaluate the following formulas and to solve for an indicated variable:

1. Use the formula  $d = rt$ , where  $d$  is distance,  $r$  is rate of speed,  $t$  is time, to (a) find the distance traveled by a car that travels 5 hours at 60 mph. (b) to find the rate of speed of a car that travels 450 miles in 9 hours first solve for  $r$ .

2. The formula for the area of a triangle is  $A = \frac{1}{2}bh$  where  $b$  is the length of the base of the triangle and  $h$  is the height or altitude of the triangle.  
Use the formula to find the base of a triangle that has an area of 60 square meters and a height of 7 meters by first solving for  $b$ .

When working with scientific formulas it is often helpful to solve the formula itself for a given variable – rather than substitute values. In each of the following equations, solve the formula for the indicated variable, “getting rid of” variables rather than numbers.

a.  $d = h - 64$  for  $h$                       b.  $P = 2l + 2w$  for  $w$                       c.  $Q = \frac{p-q}{2}$  for  $p$

d.  $A = \frac{a+b+c}{3}$  for  $c$                       1.  $d = rt$  for  $t$                       2.  $S = 2C + T$  for  $C$

3.  $f = \frac{9}{5}c + 32$  for c

4.  $A = \frac{1}{2}bh$  for h

5.  $I = prt$  for t

6.  $m = \frac{x+y}{3}$  for y

7.  $V = \frac{1}{3}Bh$  for B

8.  $R = \frac{m-w}{b}$  for m

9.  $5x - y = -10$  for y

10.  $2x + 3y = 9$  for y

11.  $-7x + 3y = 8$  for y