

**5 - 6**

**Use Formulas to  
Solve Problems**

formula: an equation stating a relationship between 2 or more variables

Ex:  $A = lw$

Find the area of a rectangle with length of 9 units and width of 5 units.

$$A = lw$$

$$A = 9 \cdot 5$$

$$A = 45 \text{ u}^2$$

Ex: Use the formula  $d = rt$ , where  $d =$  distance,  $r =$  rate, and  $t =$  time. A car traveled 120 mi in 2.5 hr. Find its average rate.

$$d = rt$$

$$\frac{120}{2.5} = r \cdot \frac{2.5}{2.5}$$

$$48 = r$$

$$48 \text{ mi/hr}$$

$$48 \text{ mph}$$

**Ex:**  $F = \frac{9}{5}C + 32$       If the outside temperature is  $86^{\circ}$  F, find the temperature in degrees Celsius.

$$86 = \frac{9}{5}C + 32$$
$$\begin{array}{r} -32 \\ \hline \end{array}$$
$$\begin{array}{r} \phantom{86} \\ \phantom{=} \\ \phantom{\frac{9}{5}C} \\ \phantom{+} \\ \phantom{32} \\ \hline \end{array}$$

$$\frac{5}{9} \cdot 54 = \frac{9}{9}C \cdot \frac{5}{9}$$

$$30^{\circ} = C$$

**Ex:** In the formula  $F = ma$ , solve for m.

$$\frac{F}{a} = \frac{ma}{a}$$

$$\frac{F}{a} = m$$

$$\cancel{x} + y = 3$$

$-x$

, solve for y

$$y = 3 - x$$

$$\frac{d}{r} = \frac{rt}{r}, \text{ solve for } t$$

$$\frac{d}{r} = t$$

$$m = \underline{\hspace{2cm}}$$

## Homework:

p. 234 #1 - 8, 10, 11, 18, 19