

30. p145

$$4y + 2 = 3(6 - 4y)$$

$$4y + 2 = 18 - 12y$$

$$2 = 18 - 16y$$

$$-16 = -16y$$

$$\frac{-16}{-16} = \frac{-16y}{-16}$$

$$1 = y$$

$$44. \quad P = 2l + 2w$$

$$P = 2(l + w)$$

$$P = 2(2x) + 2x \quad P = 2(x+12) + 2(x+3)$$

$$4x + 2x = 2x + 24 + 2x + 6$$

$$6x = 4x + 30$$

$$\frac{2x}{2} = \frac{30}{2}$$

$$x = 15$$

$$P = 6x$$

$$P = 6(15)$$

$$P = 90 \text{ units}$$

$$46. \quad \underline{m\angle A} + \underline{m\angle B} + \underline{m\angle C} = 180$$

$$\underline{4x+34} + \underline{7x-10} + \underline{5x+12} = 180$$

$$16x + \overset{-36}{36} = 180$$

$$\frac{16x}{16} = \frac{144}{16}$$

$$x = 9$$

$$\begin{array}{lll} m\angle A = 4x + 34 & m\angle B = 7x - 10 & m\angle C = 5x + 12 \\ m\angle A = 4(9) + 34 & m\angle B = 7(9) - 10 & m\angle C = 5(9) + 12 \\ m\angle A = 36 + 34 & m\angle B = 63 - 10 & m\angle C = 45 + 12 \\ m\angle A = 70^\circ & m\angle B = 53^\circ & m\angle C = 57^\circ \end{array}$$

$$\begin{array}{r} 70 \\ 53 \\ 57 \\ \hline 180 \end{array}$$

40.  $1.4m + .6(m-2) = 2.4m$

Distribute

$$1.4m - .6m + 1.2 = 2.4m$$

Combine  
Like terms

$$.8m + 1.2 = 2.4m$$

$$\frac{1.2}{1.6} = \frac{1.6m}{1.6}$$

$$\frac{1.2}{1.6} \cdot 10$$

$$\frac{3}{4} = m$$

$$1.6 \overline{) 1.200}$$

$$\begin{array}{r} .75 \\ 1.6 \overline{) 1.200} \\ \underline{-112} \phantom{0} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

$$\frac{12}{16}$$

$$.75 = m$$

$$\frac{3}{4}$$

$$38. \quad 3x - 2(x+6) = 4x - (x-10)$$

$$3x - 2x - 12 = 4x - x + 10$$

$$x - 12 = 3x + 10$$

$$-12 - 10 = 2x + 10 - 10$$

$$-22 = \frac{2x}{2}$$

$$-11 = x$$

## 3.6 Formulas

## Literal Equations

Solve for  $x$   $x =$ 

$$\frac{24}{3} = \frac{3x}{3}$$

$$8 = x$$

Solve for  $w$   $w =$ 

$$A = \frac{l}{l} w$$

$$\frac{A}{l} = w$$

$$\text{Area} = 24 \text{ ft}^2$$

$$\text{Length} = 3 \text{ ft.}$$

$$\text{Width} = ? \quad 8 \text{ ft.}$$

$$\frac{24}{3} = w$$

$$8 = w$$

$$A = lw$$

$$\frac{24}{3} = \frac{3w}{3}$$

$$8 = w$$

$$8 \text{ ft.}$$

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

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

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

Solve for  $t$        $t =$

$$210 \text{ mi} = 70 \frac{\text{miles}}{\text{hour}} \cdot \frac{3 \text{ hours}}{1}$$

210 miles

$$40 \frac{\cancel{\text{ft}}}{\cancel{\text{sec}}} \cdot \frac{1 \text{ mi}}{5280 \cancel{\text{ft}}} \cdot \frac{60 \cancel{\text{sec}}}{1 \cancel{\text{min}}} \cdot \frac{60 \cancel{\text{min}}}{1 \text{ hr}} = \frac{\text{mi}}{\text{hr}}$$

$$\frac{144,000}{5280} \frac{\text{mi}}{\text{hr}}$$

$$\approx 27.27 \frac{\text{mi}}{\text{hr}}$$



$$\frac{C}{\pi} = \frac{\pi d}{\pi} \quad \text{Solve for } d$$

$$\frac{C}{\pi} = d$$

$$y = mx + b$$

Solve for x

$$8 = 2x + 4$$

$$\frac{y-b}{m} = \frac{mx}{m}$$

$$\frac{y-b}{m} = x$$

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