

Homework Jan. 31

1.) $5x - 30 = 40$ alternate interior
 $+30 +30$

$$\frac{5x}{5} = \frac{70}{5}$$

$$x = 14$$

$$5(14) - 30 \quad | \quad 40^\circ \checkmark$$

$$40^\circ$$

2.) $12x + 23 = 7x + 58$ corresponding

$$\frac{-7x}{-7x}$$

$$5x + 23 = 58$$

$$\frac{-23}{-23}$$

$$\frac{5x}{5} = \frac{35}{5}$$

$$x = 7$$

$$12(7) + 23 \quad | \quad 7(7) + 58$$

$$107^\circ \quad | \quad 107^\circ$$

3.) $12x + 23 = 7x + 58$ vertical
 same as #2

$$x = 7$$

$$107^\circ \quad \& \quad 107^\circ$$

4.) $6x - 118 = 2x + 42$ Alternate Exterior

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

$$4x - 118 = 42$$

$$\frac{+118}{+118}$$

$$\frac{4x}{4} = \frac{160}{4}$$

$$x = 40$$

$$6(40) - 118$$

$$122^\circ$$

$$2(40) + 42$$

$$122^\circ$$

5) $4 + 6x = x + 89$ Alternate Interior

$$\begin{array}{r} 4 + 6x = x + 89 \\ -x \quad -x \\ \hline 4 + 5x = 89 \end{array}$$

$$\begin{array}{r} 4 + 5x = 89 \\ -4 \quad -4 \\ \hline 5x = 85 \end{array}$$

$$\frac{5x}{5} = \frac{85}{5}$$

$$x = 17$$

$$\begin{array}{l|l} 4 + 6(17) & (17) + 89 \\ 106^\circ & 106^\circ \end{array}$$

6) $m = -3$

$b = ?$

$$y = mx + b$$

$$-4 = (-3)(2) + b$$

$$-4 = -6 + b$$

$$\begin{array}{r} -4 = -6 + b \\ +6 \quad +6 \\ \hline 2 = b \end{array}$$

$$2 = b$$

equation: $y = -3x + 2$

$$\begin{array}{l} x, y \\ (2, -4) \end{array}$$

7) parallel \rightarrow same slope

$$m = \frac{5}{4}$$

$$b = -7$$



$$\frac{4y}{4} = \frac{5x}{4} + \frac{12}{4}$$

$$y = \frac{5}{4}x + 3$$

equation: $y = \frac{5}{4}x - 7$