

Answer Key

Equation of a Line - Worksheet 2

1) $a=9$ $(-3, 2)$ $y = ax + b$ $y = 9x + 29$
 $2 = 9(-3) + b$
 $2 = -27 + b$
 $2 + 27 = b$
 $29 = b$

2) $a=8$ $b=10$ $y = 8x + 10$

3) $(2, 5)$ $(-8, 4)$ $a = \frac{y_2 - y_1}{x_2 - x_1}$ $y = \frac{1}{10}x + b$ $y = \frac{1}{10}x + \frac{24}{5}$
 $5 = \frac{1}{10}(2) + b$
 $a = \frac{(4) - (5)}{(-8) - (2)}$ $5 = \frac{2}{10} + b$
 $a = \frac{-1}{-10}$ $\times 5 \frac{5}{1} = \frac{1}{5} + b$
 $a = \frac{1}{10}$ $\frac{25}{5} - \frac{1}{5} = b$
 $\frac{24}{5} = b$

4) $6y - 12x = 11$ Slope: 2.
 $\frac{6y}{6} = \frac{12x + 11}{6}$
 $y = 2x + \frac{11}{6}$

5) $a=8$ $(-5, 8)$ $y = ax + b$ $y = 8x + 48$
 $y = 8x + b$
 $8 = 8(-5) + b$
 $8 = -40 + b$
 $8 + 40 = b$
 $48 = b$

6) $a=7$ $b=12$ $y = 7x + 12$

7) (14, 7) (4, 9)

$$a = \frac{y_2 - y_1}{x_2 - x_1}$$

$$a = \frac{(9) - (7)}{(4) - (14)}$$

$$a = \frac{2}{-10}$$

$$a = -\frac{1}{5}$$

$$y = ax + b$$

$$7 = -\frac{1}{5}(14) + b$$

$$\begin{matrix} \times 5 \\ \times 5 \end{matrix} \frac{7}{1} = -\frac{14}{5} = b$$

$$\frac{35}{5} + \frac{14}{5} = b$$

$$\frac{49}{5} = b$$

$$y = -\frac{1}{5}x + \frac{49}{5}$$

8) $11y + 4x = 14$

$$\frac{11y}{11} = -\frac{4x}{11} + \frac{14}{11}$$

$$y = -\frac{4x}{11} + \frac{14}{11}$$

9) $a = 3$ (-5, 6)

$$y = ax + b$$

$$6 = 3(-5) + b$$

$$6 = -15 + b$$

$$6 + 15 = b$$

$$21 = b$$

$$y = 3x + 21$$

10) $a = -10$ $b = 14$

$$y = -10x + 14.$$