

Answer Key  
Equation of a Line Worksheet 3

1)  $a = 11$   $(-5, 8)$   $y = 11x + 63$   
 $y = 11x + b$   
 $8 = 11(-5) + b$   
 $8 = -55 + b$   
 $8 + 55 = b$   
 $63 = b$

2)  $a = 10$   $b = 15$   $y = 10x + 15$

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

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

$$a = \frac{(5) - (6)}{(-9) - (3)}$$

$$a = \frac{-1}{-12}$$

$$a = \frac{1}{12}$$

$$y = ax + b$$

$$y = \frac{1}{12}x + b$$

$$6 = \frac{1}{12}(3) + b$$

$$6 = \frac{3}{12} + b$$

$$\frac{6}{1} = \frac{1}{4} + b$$

$$\frac{6}{1} - \frac{1}{4} = b$$

$$\frac{24}{4} - \frac{1}{4} = b$$

$$\frac{23}{4} = b$$

$$y = \frac{1}{12}x + \frac{23}{4}$$

4)  $8y + 16x = 12$   $a = -2$

$$\frac{8y}{8} = \frac{-16x}{8} + \frac{12}{8}$$

$$y = -2x + \frac{3}{2}$$

5)  $a = 14$   $(-3, 12)$   $y = 14x + 54$

$$y = 14x + b$$

$$12 = 14(-3) + b$$

$$12 = -42 + b$$

$$12 + 42 = b$$

$$54 = b$$

6)  $a=9$   $b=16$

$$y=9x+16$$

---

7)  $(20, 3)$   $(6, 11)$

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

$$a = \frac{11 - 3}{6 - 20}$$

$$a = \frac{4}{-14}$$

$$a = -\frac{2}{7}$$

$$y = ax + b$$

$$y = -\frac{2}{7}x + b$$

$$3 = -\frac{2}{7}(20) + b$$

$$3 = -\frac{40}{7} + b$$

$$\frac{3}{1} + \frac{40}{7} = b$$

$$\frac{21}{7} + \frac{40}{7} = b$$

$$\frac{61}{7} = b$$

---

$$y = -\frac{2}{7}x + \frac{61}{7}$$

8)  $-13y + 6x = 18$

$$\frac{-13y}{-13} = \frac{-6x + 18}{-13}$$

$$y = \frac{6x}{13} - \frac{18}{13}$$

---

9)  $a=7$   $(-9, 2)$

$$y = ax + b$$

$$y = 7x + b$$

$$2 = 7(-9) + b$$

$$2 = -63 + b$$

$$2 + 63 = b$$

$$65 = b$$

---

$$y = 7x + 65$$

10)  $a=-4$   $b=13$

$$y = -4x + 13$$