

Answer Key  
Equation of a Line Worksheet 4.

1)  $a=13$   $(-3, 2)$   $y=ax+b$   $y=13x+41$   
 $y=13x+b$   
 $2=13(-3)+b$   
 $2=-39+b$   
 $2+39=b$   
 $41=b$

2)  $a=16$   $b=20$   $y=16x+20$

3)  $(4, 13)$   $(-15, 6)$   $a = \frac{y_2 - y_1}{x_2 - x_1}$   $y=ax+b$   $y = \frac{7}{19}x + \frac{219}{19}$   
 $x_1, y_1$   $x_2, y_2$   
 $a = \frac{6 - 13}{(-15) - (4)}$   $y = \frac{7}{19}x + b$   
 $a = \frac{-7}{-19}$   $13 = \frac{7(4)}{19} + b$   
 $a = \frac{7}{19}$   $\frac{13}{1} = \frac{28}{19} + b$   
 $\frac{247}{19} - \frac{28}{19} = b$   
 $\frac{219}{19} = b$

4)  $17y - 9x = 10$   
 $\frac{17y}{17} = \frac{9x}{17} + \frac{10}{17}$   
 $y = \frac{9x}{17} + \frac{10}{17}$

5)  $a=16$   $(-5, 9)$   $y=ax+b$   $y=16x+89$   
 $9=16(-5)+b$   
 $9=-80+b$   
 $9+80=b$   
 $89=b$

6)  $a=11$   $b=5$   $y=11x+5$

7) (22, 9) (6, 8)

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

$$a = \frac{(8) - (9)}{(6) - (22)}$$

$$a = \frac{-1}{-16}$$

$$a = \frac{1}{16}$$

$$y = ax + b$$

$$y = \frac{1}{16}x + b$$

$$9 = \frac{1}{16}(22) + b$$

$$9 = \frac{22}{16} + b$$

$$\frac{9}{1} = \frac{11}{8} + b$$

$$\frac{72}{8} - \frac{11}{8} = b$$

$$\frac{61}{8} = b$$

$$y = \frac{1}{16}x + \frac{61}{8}$$

8)  $15y - 3x = 14$

$$\frac{15y}{15} = \frac{3x}{15} + \frac{14}{15}$$

$$y = \frac{1}{5}x + \frac{14}{15}$$

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

9)  $a = 10$  (-11, 5)

$$y = ax + b$$

$$y = 10x + b$$

$$5 = 10(-11) + b$$

$$5 = -110 + b$$

$$5 + 110 = b$$

$$115 = b$$

$$y = 10x + 115$$

10)  $a = -9$   $b = 15$

$$y = -9x + 15$$