

Equation Review

$$3x + 9 = 39$$

$$\begin{array}{r} -9 \\ -9 \end{array}$$

$$\frac{3x}{3} = \frac{30}{3}$$

$$x = 10$$

$$36 = 4x - 8$$

$$\begin{array}{r} +8 \\ +8 \end{array}$$

$$\frac{44}{4} = \frac{4x}{4}$$

$$11 = x$$

$$-\frac{6}{7} = \frac{x}{14} + 7$$

$$14x - 1 = \frac{x}{14} + 98$$

$$-14 = x$$

$$-\frac{4+x}{10} = 1$$

$$-4+x = -10$$

$$+4 \quad +4$$

$$x = -6$$

$$\frac{9}{4} = \frac{6}{x-3}$$

$$9(x-3) = 24$$

$$9x - 27 = 24$$

$$+27 \quad +27$$

$$9x = 51$$

$$\frac{9x}{9} = \frac{51}{9}$$

$$x = \frac{17}{3}$$

$$\frac{k-8}{2} = 9$$

$$1(k-8) = 2 \cdot 9$$

$$\begin{array}{r} k-8 \\ +8 \\ +8 \end{array}$$

$$k = 18$$

$$\frac{7}{1} = \frac{3+x}{2}$$

$$14 = 3+x$$

$$11 = x$$

$$\frac{6}{x-8} = \frac{4}{5}$$

$$30 = 4(x-8)$$

$$30 = 4x - 32$$

$$+32 \quad +32$$

$$62 = 4x$$

$$\frac{62}{4} = \frac{4x}{4}$$

$$\frac{31}{2} = x$$

Find the x or y value.

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

$$(x_1, y_1) = (x, -3) \quad (x_2, y_2) = (-5, -6) \quad \text{slope: } \frac{3}{4}$$

$$\frac{3}{4} = \frac{-6 - (-3)}{-5 - x}$$

$$\frac{3}{4} = \frac{-6 + 3}{-5 - x}$$

$$* \frac{3}{4} = \frac{-3}{-5-x}$$

$$3(-5-x) = -12$$

$$-15 - 3x = -12$$

$$+15 \quad +15$$

$$-3x = 3$$

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

$$x = -1$$

$$(x_1, y_1) = (-5, y) \quad (x_2, y_2) = (0, -3) \quad \text{slope: } \frac{2}{5}$$

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

$$\frac{2}{5} = \frac{-3 - y}{0 - (-5)}$$

$$\frac{2}{5} = \frac{-3-y}{5}$$

$$10 = 5(-3-y)$$

$$10 = -15 - 5y$$

$$+15 \quad +15$$

$$25 = -5y$$

$$-5 = y$$

$$(x_1, y_1) = (x, 7) \quad (x_2, y_2) = (1, -5) \quad \text{slope: } -\frac{6}{1}$$

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

$$-6 = \frac{-5 - 7}{1 - x}$$

$$-6(1-x) = -12$$

$$-6 + 6x = -12$$

$$+6 \quad +6$$

$$6x = -6$$

$$\frac{6x}{6} = \frac{-6}{6}$$

$$x = -1$$