

1. If  $3x - 2 = 8$ , what is the value of  $6x + 1$ ?

$$3x = 10$$

$$6x = 20$$

$$6x + 1 = \boxed{21}$$

2. Find the ordered pair  $(x, y)$  that satisfies the system of equations below.

$$2(2) - y = 3$$

$$4 - y = 3$$

$$\begin{array}{r} -4 \quad -4 \\ \hline \end{array}$$

$$-y = -1$$

$$y = 1$$

$$\begin{array}{r} 2x - y = 3 \\ 5x + 3y = 13 \\ \hline \end{array}$$

x3 ↙

$$\begin{array}{r} 6x - 3y = 9 \\ \hline 11x \quad = 22 \\ \hline \end{array}$$

$$x = 2$$

$$\boxed{(2, 1)}$$

3. Line  $l$  has slope of -2. If it passes  $(0, k)$  and  $(2, 0)$ , find  $k$ .

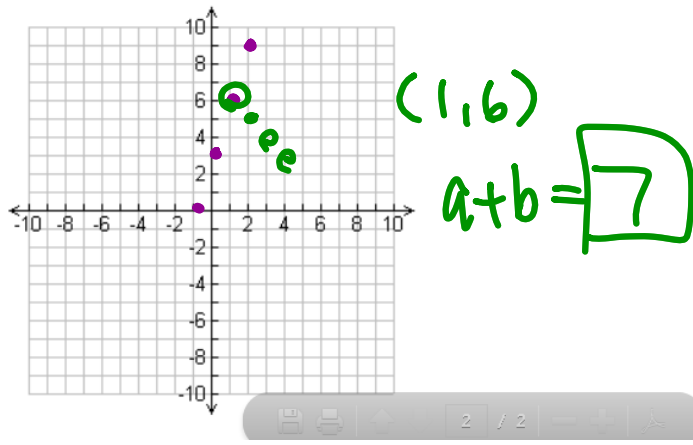
$$m = \underline{-2} = \frac{k-0}{0-2} = \frac{k}{-2} = \frac{-2}{1}$$

$k = 4$

4. Given:  $A = \frac{2B}{3+5B}$ . Solve for  $B$ .

$$\begin{aligned} 2B &= 3A + 5AB \\ -5AB &\quad -5AB \\ \hline 2B - 5AB &= 3A \\ B(2 - 5A) &= 3A \\ \hline B &= \frac{3A}{2-5A} \end{aligned}$$

5. The graph of a line in the  $xy$ -plane has slope  $3$  and contains the point  $(2, 9)$ . The graph of a second line passes through the points  $(3, 4)$  and  $(4, 3)$ . If the two lines intersect at the point  $(a, b)$ , what is the value of  $a + b$ ?



$$ax^2 + bx + c = 0$$

6. What is the sum and product of the roots for  $3x^2 + 11x = 6$ ?

$$S = -\frac{b}{a} = \frac{-11}{3} \quad 3x^2 + 11x - 6 = 0$$

$$P = \frac{c}{a} = \frac{-6}{3} = -2$$

7. Express the given expressions with quotient and remainder.

$$\frac{5x + 0}{x + 3}$$

$-3 \mid$

5 0

$$5 - \frac{15}{x+3}$$

↓

-15

$$\begin{array}{r} 5 \phantom{0} \\ \hline 5 \phantom{0} \\ \hline -15 \phantom{0} \end{array}$$