

# Ans. Key

Math 115

Exam 2

Name \_\_\_\_\_

Instructions: Show your work. Reduce answers to lowest terms.

1. What can we say about the slope of a straight line graph parallel to the  $x$ -axis?

$$m = 0$$

2. What can we say about the slope of a straight line graph parallel to the  $y$ -axis?

slope undefined

3. If a straight line graph goes through the points  $(6, 2)$  and  $(-2, -5)$ , what is its slope?

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - (-5)}{6 - (-2)} = \frac{7}{8}$$

4. Find the slope of the line that goes through the points  $(2, 5)$  and  $(3, 8)$ .

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{8 - 5}{3 - 2} = \frac{3}{1} = 3$$

... equation of line that goes through  $(5, 5)$  and  $(-7, -7)$ .

$$m = \frac{5 - (-7)}{5 - (-7)} = 1 \quad y = x$$

6. Given  $y = \frac{3}{4}x + 7$  find the  $x$  and  $y$  intercepts.

a)  $x$ -intercept let  $y = 0$

$$\frac{3}{4}x = -7$$
$$x = \frac{-28}{3} = -9\frac{1}{3} \quad (-9\frac{1}{3}, 0)$$

b)  $y$ -intercept let  $x = 0 \rightarrow y = 7$

$$(0, 7)$$

7. Find the equation of the line that goes through  $(3, 4)$  and has a slope of  $-3$ .

$$-3 = \frac{y - 4}{x - 3}$$

$$-3x + 9 = y - 4$$

$$-3x + 13 = y$$
$$y = -3x + 13$$

8. Given  $f(x) = 7 - 5x$   
Find  $f(7) = 7 - 5(7)$   
 $= 7 - 35$   
 $= -28$

9. Given  $f(x) = 2x^2 - 5$   
Find  $f(-5) = 2(-5)^2 - 5$   
 $= 2 \cdot 25 - 5$   
 $= 45$

10. If  $F(x) = \frac{x^2}{x-2}$ , find  $F(0)$ .

$$F(0) = \frac{0^2}{0-2} = 0$$

11. Plot the following points on the graph.

$$(-3, 1.5)$$

$$(-2, 0)$$

$$(0, -3)$$

$$(2, -6)$$



