

Exam 1 Study Guide

Name _____

Answer the questions in the spaces provided. If you run out of room for an answer, continue on the back of the page.

1. Solve and graph the inequalities:

(a) $5x \leq 4x - 10$

$5 > 4 - 10x$

(b) $5 \geq |25x|$

$12x < 14 - 2x$

2. Write the corresponding intervals in interval notation:

(a) $5 \leq 3x - 10$

$5x > 4 - 10x$

(b) $|5x| \geq 25$

$12x < 15x - 2$

3. Solve for x or y :

(a) Solve for y when $x = 2$
 $y = 1 - 5x$

$$10x + 5y = 30$$

(b) Solve for x when $y = 3$
 $10y = 3x - 1$

$$4x - 6y = 2$$

4. Graph the following equations:

(a) $y = 1 - 5x$

$$x + 5y = 3$$

5. Give the union and intersection of the following sets:

(a) $\{1, a, 4, w, 55\}$ and $\{y, a, 4, 12\}$

$\{1, 2, 3\}$ and $\{a, b, c\}$

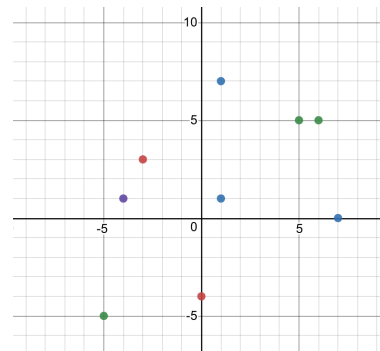
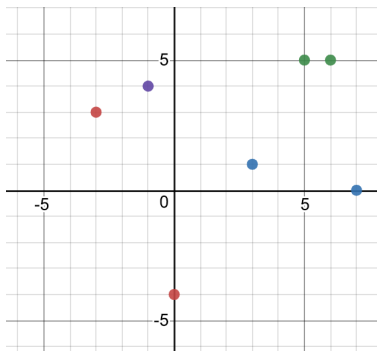
6. Circle the set of order pairs that could be a function:

(a) $\{(1, 2), (5, 6), (1, 1), (2, 1)\}$ OR $\{(3, 2), (5, 6), (12, 1), (2, 5)\}$

(b) $\{(1, 2), (2, 1), (3, 1)\}$ OR $\{(2, 2), (5, 6), (2, 5)\}$

7. Determine if either of these graphs could be a function and write your answer below:

(a)



8. Solve the following word problems:

- (a) Tom leaves his house at 8am and drives for a for an hour and a half(9:30am). When he stops, he check his GPS and sees he's 180miles away from his house. How fast did he drive in mph(mile per hour)?

- (b) While camping, Tori hikes up a near by mountain. When she returns to her campsite later that night, she finds that the trip took her 3hrs going up the mountain, and 2hrs going down. If she was traveling 2mph faster going down the mountain than she was going up it, how fast was she going in both direstions?

Hint: you should have two answers. One for her speed going up the mountain AND one coming back down.