Name	 		
Unit 3			

Date _____ Lesson 2

<u>Do Now</u>: Think of two numbers whose sum is 10. Write your answers as pairs of <u>coordinates</u>. Graph your results below:



AIM: GRAPHING LINEAR EQUATIONS TO DETERMINE THE SOLUTION SET

1. There is enough space in your garden to plant ten plants. You want to plant watermelons & pumpkins. List the possible combinations of the number of watermelons and pumpkins you could plant. Graph the results of the possible combinations of plants.



2. Given the graph to the right:

Is the graph *discrete* or *continuous?* Explain your answer.



- 3. Samantha purchases a package of sugar cookies. The nutrition label states that each serving size of 3 cookies contains 160 Calories. Samantha creates the graph below showing the number of cookies eaten and the number of Calories consumed.
- (a) Explain why it is appropriate for Samantha to draw a line through the points on the graph.





(c) Is the graph *discrete* or *continuous?* Explain your answer.

- 4. Max purchased a box of green tea mints. The nutrition label on the box stated that a serving of three mints contains a total of 10 Calories.
 - (a) On the axes below, graph all of the possible solutions to represents the number of Calories in x mints.



(b) How many possible solutions can be graph?

(c) Is the graph *discrete* or *continuous?* Explain your answer.

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HW#____

- 1. The number of calories burned *y* after *x* hours of rock climbing is represented by the table below.
 - a. Graph the solutions.
 - b. How many possible solutions will satisfy this function?
 - c. Is the graph *discrete* or *continuous?* Explain you answer.

Hours Kayaking, x	Calories Burned, y		
2	600		
4	1200		
6	1800		
8	2400		



2. Describe a situation that the accompanying graph may represent. Label the axes according to your scenario



- 3. If Rosa's age is represented by *R*, which inequality represents the statement "Rosa is at most 29 years old"?
 - 1) *R* < 29
 - 2) R > 29
 - 3) $R \le 29$
 - 4) $R \ge 29$
- 4. The expression $\frac{2x^2 + 10x 28}{4x + 28}$ is **undefined** when x is
- 1) 7, only
- 2) -7, only
- 3) 7 or –2
- 4) -7 or 2

- 5. Which equation represents a vertical line?
- 1) y = -x
- 2) *y* = 12
- 3) x = y
- 4) x = 12

6. If ax + 3 = 7 - bx, what is *x* expressed in terms of *a* and *b*? ****Show work!!!**

1)
$$\frac{4}{ab}$$

2) $-\frac{4}{ab}$

3)
$$\frac{4}{a+b}$$

4) $-\frac{4}{a+b}$

7. $(x-6)^2$ is equivalent to : **Show work!!!

- 1) x² 36
- 2) x² + 36
- 3) $x^2 12x + 36$
- 4) $x^2 + 12x + 36$

8. What is the conjugate of (x + 4)?