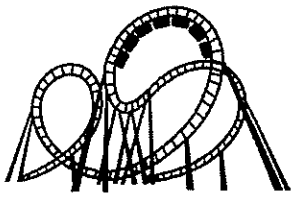
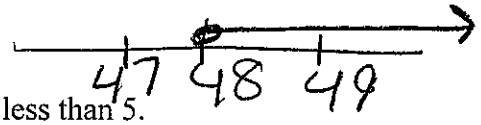
Name _____ Date _____

Unit 3 **Lesson 2**

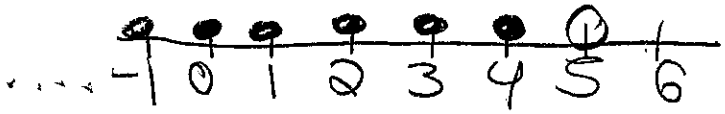


Do Now: Graph on a number line to represent the given inequality.

A. Must be at least 48 inches tall to ride the roller coaster.



B. Integers less than 5.



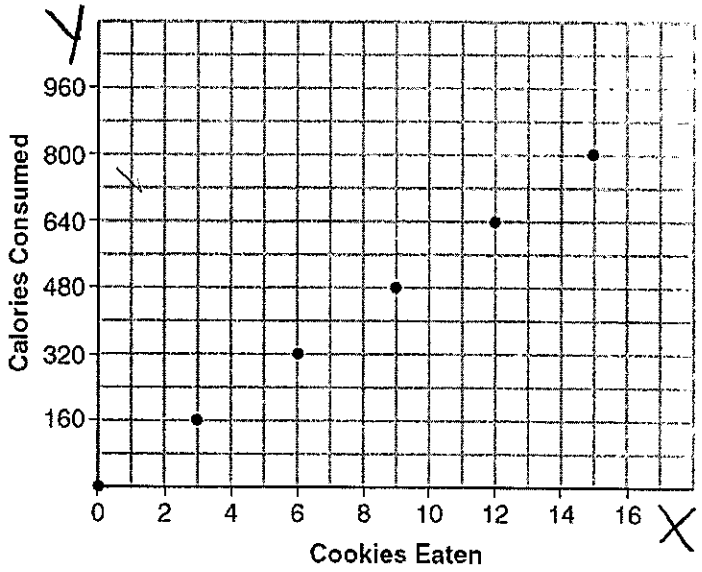
AIM: ANALYZING & GRAPHING SOLUTION SET TO EQUATIONS WITH TWO VARIABLES

DISCRETE	CONTINUOUS
finite solutions	infinite solutions

1. Samantha purchases a package of chocolate chip 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) What are the ordered pairs that represent this solution set? Quadrant I

(cookies, calories)
(0, 0)
(3, 160)
(6, 320)
(9, 480)
(12, 640)
(15, 800)



(b) Is it appropriate to draw a line through the points on the graph? Explain. Yes, the graph is continuous. You may eat a fraction of a cookie.

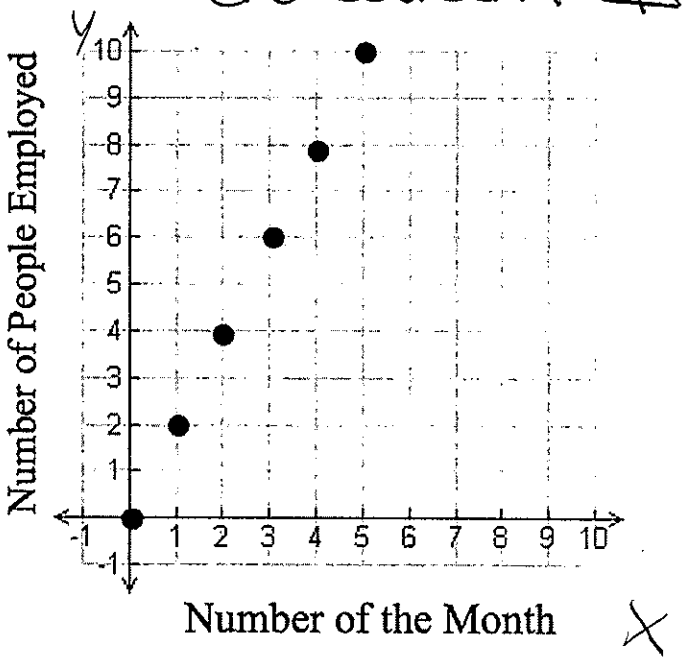
2. Brian opened up a new business. His business plan was to consistently hire the same amount of people each month for the first year of his business. The graph below represents the relationship between the number of months and the number of people he hired. (At month 0, he hired 0 people.)

Quadrant I

a. What are the ordered pairs that represent this solution set?

# of month, # of employee

(0, 0)
(1, 2)
(2, 4)
(3, 6)
(4, 8)
(5, 10)



b. How many people does Brian plan on hiring per month? 2 people per month

c. Is it appropriate to draw a line through the points on the graph? Explain. No, the graph is discrete you may only hire whole people.

d. Assuming Brian keeps his business plan for hiring employees, how many employees would Brian have after one full year? Explain how you arrived at your answer.

12 months

2 people per month

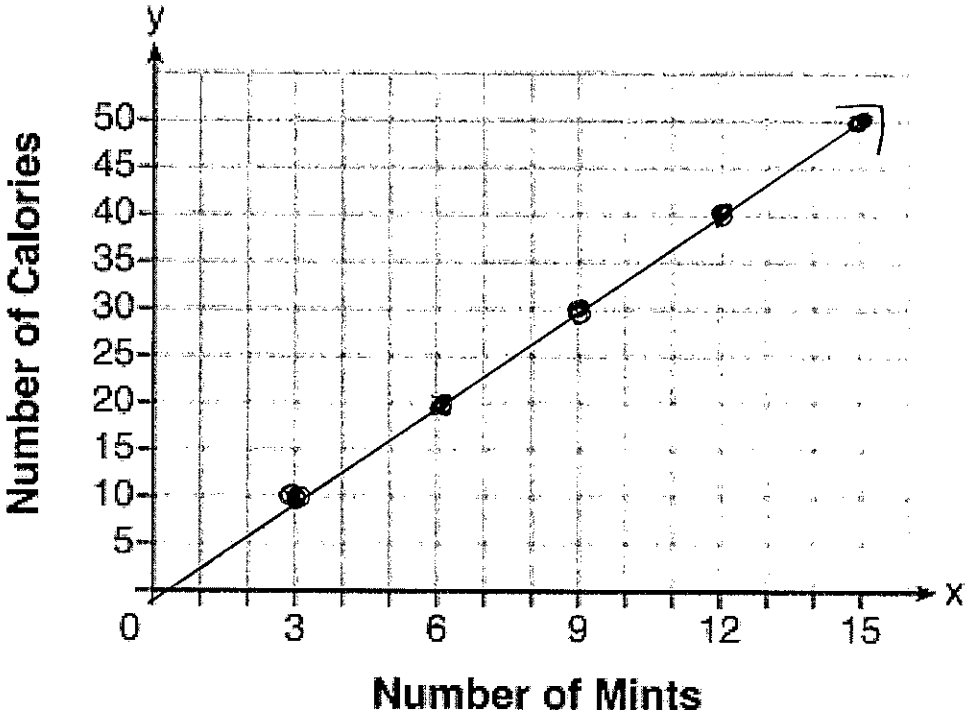
2 (12) = 24 people in one year.

people # of months

3. Emma 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 the possible solutions to represents the number of Calories in x mints.

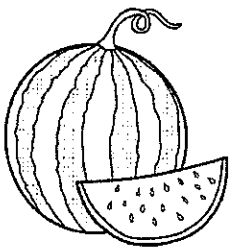
M C
(3, 10)
(6, 20)
(9, 30)
(12, 40)
(15, 50)



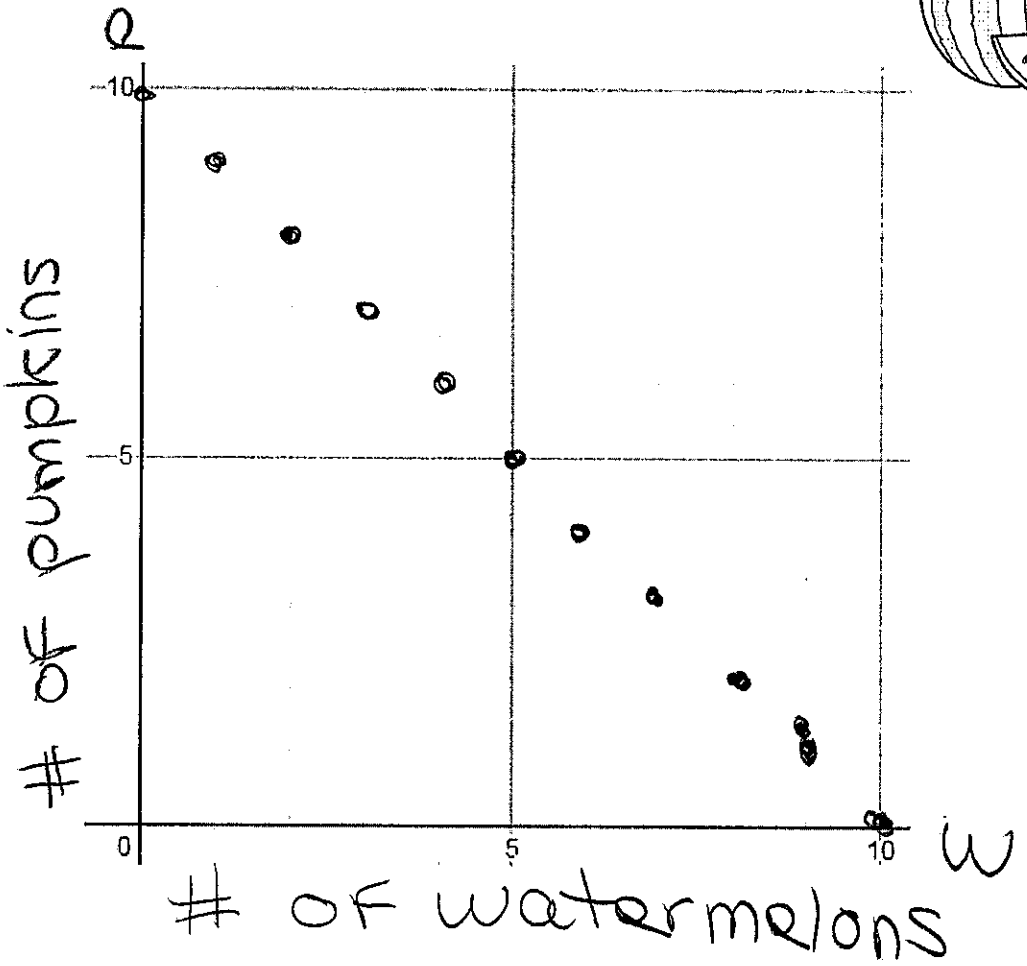
(b) Is it appropriate to draw a line through the points on the graph? Explain your answer.

Yes. the graph is continuous. Your solutions can be mints that are not in intervals of three.

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



(w, p)
(0, 10)
(1, 9)
(2, 8)
(3, 7)
(4, 6)
(5, 5)
(6, 4)
(7, 3)
(8, 2)
(9, 1)
(10, 0)



c. Does a line represent the solution set here? Why or why not? If yes, what is the equation of the line?

NO. the graph is discrete. Your solutions are only whole numbers. You may only plant whole seeds.

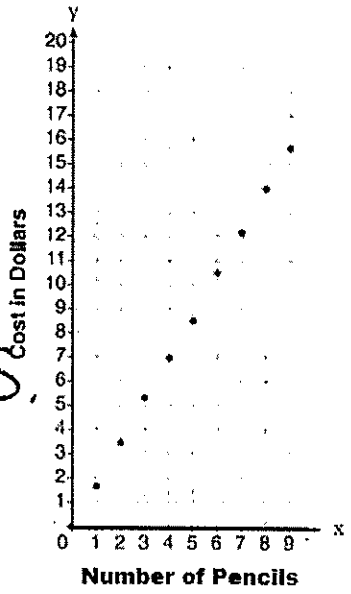
equation: $w + p = 10$

Name _____ Date _____

Unit 3 Exit Ticket **Lesson 2**

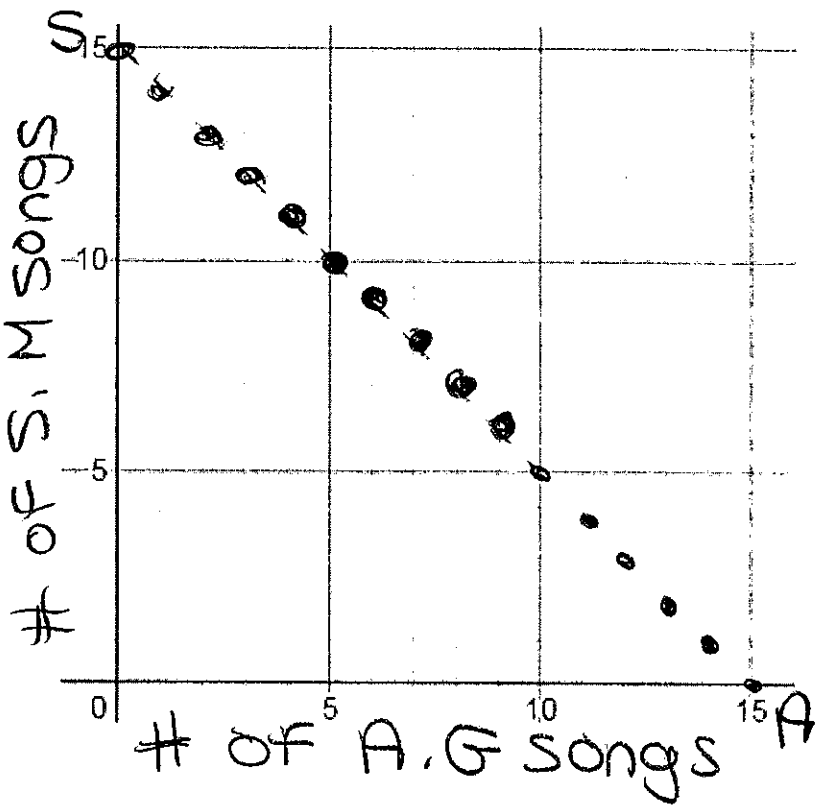
1. Kellen purchases pencils for his school supplies. The graph shows the number of pencils purchased and the cost of pencils. Is it appropriate to draw a line through the points on the graph? Explain.

No. the graph is discrete. You may only purchase whole pencils.



2. Kaitlyn had 15 songs in a playlist composed of songs from her two favorite artists, Ariana Grande and Shawn Menendez.
   a. List the possible combinations of the number of songs she had by each one in the playlist. Graph the results of the possible combinations of songs.

(A, S)
(0, 15)
(1, 14)
(2, 13)
(3, 12)
(4, 11)
(5, 10)
(6, 9)
(7, 8)
(8, 9)
(9, 6)
(10, 5)
(11, 4)
(12, 3)
(13, 2)
(14, 1)
(15, 0)



   b. Does a line represent the solution set here? Why or why not? If yes, what is the equation of the line?

No, the graph is discrete. You may only download a whole song.

A + S = 15