11/5/14 Name: _____ Period: __

Kelli is traveling by train with her soccer team from Yonkers, NY to Morgantown, WV for a tournament. The distance between Yonkers and Morgantown is 400 miles. The total trip will take 8 hours. The train schedule is provided below:

Leaving Yonkers, New York	
Destination	**Distance**
Allentown, PA	100 miles
Carlisle, PA	200 miles
Berkeley Springs, WV	300 miles
Morgantown, WV	400 miles

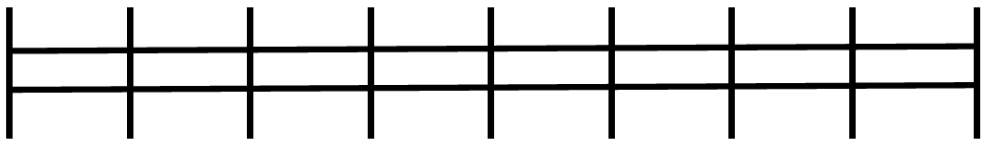
Leaving Morgantown, WV	
Destination	**Distance**
Berkeley Springs, WV	100 miles
Carlisle, PA	200 miles
Allentown, PA	300 miles
Yonkers, NY	400 miles

Exercises

1. Create a table to show the time it will take Kelli and her team to travel from Yonkers to each town listed in the schedule assuming that the ratio of the amount of time traveled to the distance traveled is the same for each city. Then, extend the table to include the cumulative time it will take to reach each destination on the ride home.

Hours	Miles

2. Create a double number line diagram to show the time it will take Kelli and her team to travel from Yonkers to each town listed in the schedule. Then, extend the double number line diagram to include the cumulative time it will take to reach each destination on the ride home. Represent the ratio of the distance traveled on the round trip to the amount of time taken with an equation.



Using the information from the double number line diagram, how many miles would be traveled in one hour? _____

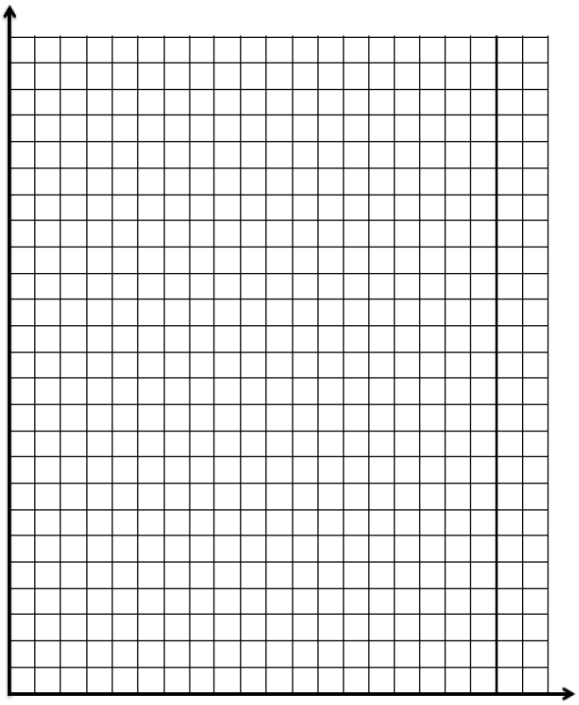
How do you know? _____

_____

Example 1

Dinner service starts once the train is 250 miles away from Yonkers. What is the minimum time the players will have to wait before they can have their meal?

Hours	Miles	Ordered Pairs



Beekeepers sometimes supplement the diet of honey bees with sugar water to help promote colony growth in the spring and help the bees survive through fall and winter months. The tables below show the amount of water and the amount of sugar used in the Spring and in the Fall.

Spring Sugar Water Mixture	
Sugar (cups)	Water (cups)
6	4
15	10
18	12
27	18

Fall Sugar Water Mixture	
Sugar (cups)	Water (cups)
4	2
10	5
14	7
30	15

Write a sentence that compares the ratios of the number of cups of sugar to the number of cups of water in each table.

Lesson Summary

A ratio table, equation, or double number line diagram can be used to create ordered pairs. These ordered pairs can then be graphed on a coordinate plane as a representation of the ratio.

Example:

Equation: $y = 3x$

x	y
0	0
1	3
2	6
3	9

Ordered Pairs

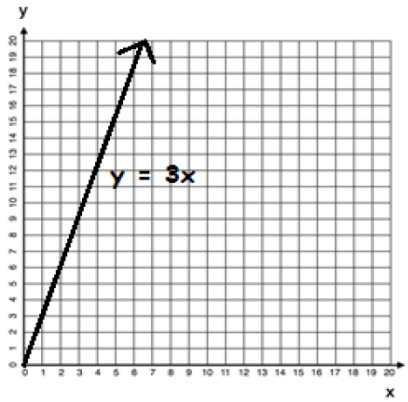
(x, y)

$(0, 0)$

$(1, 3)$

$(2, 6)$

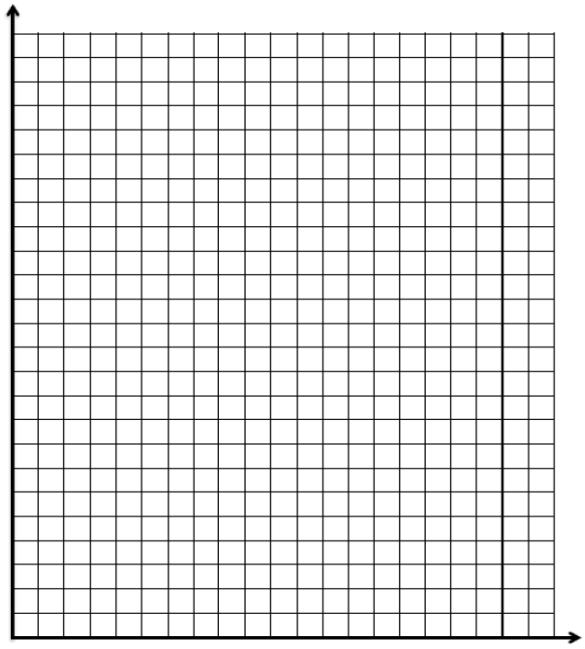
$(3, 9)$



Problem Set

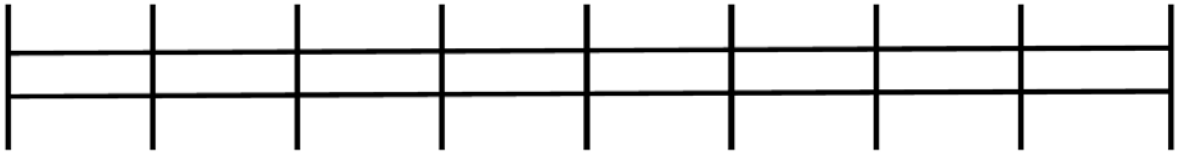
1. Complete the table of values to find the following:
   Find the number of cups of sugar needed if for each pie Karrie makes, she has to use 3 cups of sugar.

Pies	Cups of Sugar
1	
2	
3	
4	
5	
6	



Use a graph to represent the relationship.

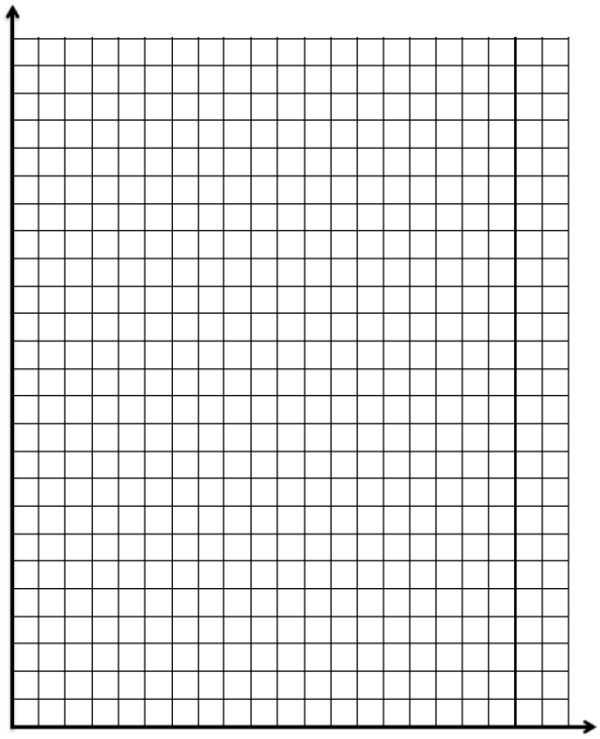
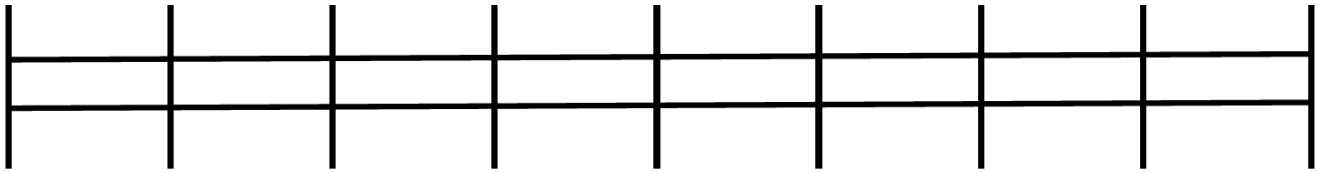
Create a double number line diagram to show the relationship.



Directions: You must write a story sentence, then create a table and graph the relationship of the ordered pairs (x,y) to the right.

2. Write a story context that would be represented by the ratio $1:4$.

Complete a table of values for this equation and graph.



Kyra is participating in a fundraiser walk-a-thon. She walks 2 miles in 30 minutes. If she continues to walk at the same rate, determine how many minutes it will take her to walk 7 miles. Use a double number line diagram to support your answer.