Name_____ Date_____
Lesson 12: apply

Bicycle Shop

Two bicycle shops build custom-made bicycles. Bicycle City charges $160 plus $80 for each day that it takes to build the bicycle. Bike Town charges $120 for each day that it takes to build the bicycle.
For what number of days will the charge be the same at each shop?

Number of Days	Bike City	Bike Town
0	160	0
1	240	120
2	320	240
3	400	360
4	480	480
5	560	600
6	640	720

- What do the numbers represent on the table?

- How did you determine the numbers on the table?

- How does the table help you to answer the question?

- Is there a unit rate for the data from Bike Town? Explain your answer.

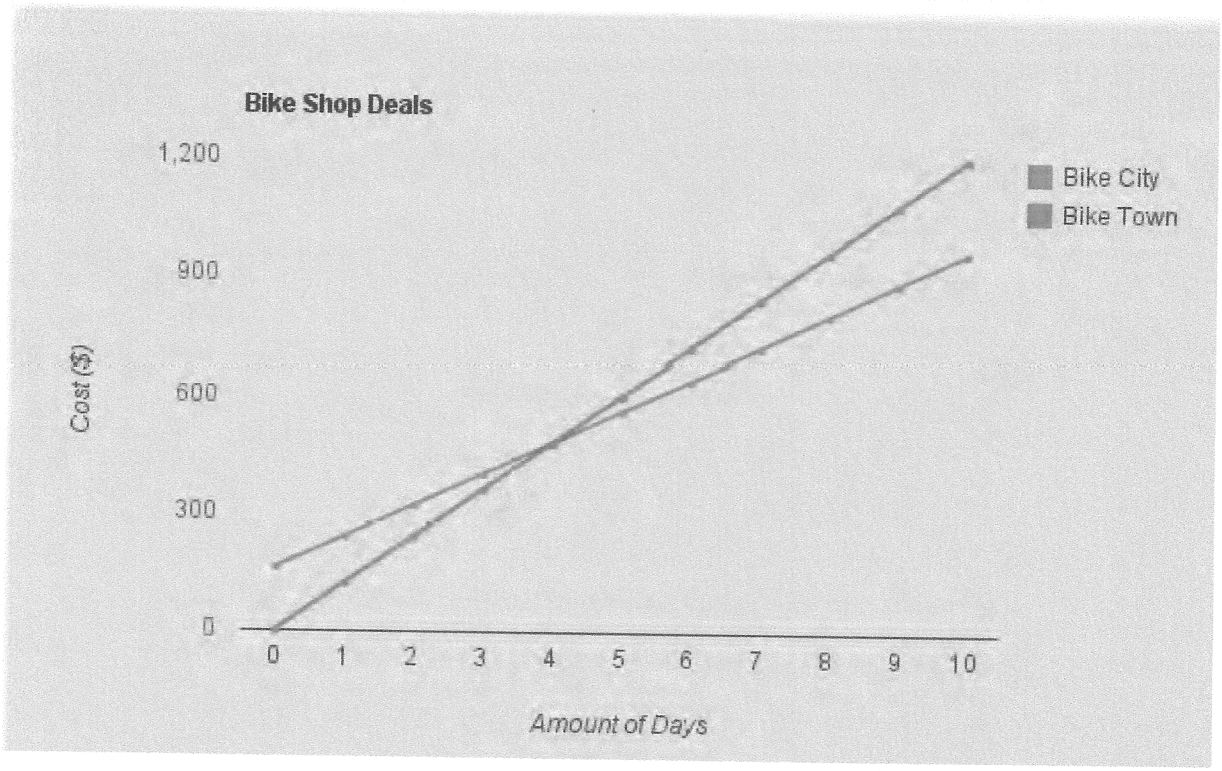
- Is there a unit rate for the data from Bike City? Explain your answer.

- Will there be another day in which the two stores will charge the same amount? How do you know?

- Is there a proportional relationship between the number of days and charge for either of the bike stores?

- How do we see the daily rate for each of the bike shops on the table?

Graph of the two Bike Shop deals



For what number of days will the charge be the same at each bike shop? Where do you see this on the graph?

- What do the two lines represent on your graph?

- How does the graph help you solve the problem?

- What do the points (0, 0); and (0, 160) mean in the context of the problem?

- Is there a proportional relationship between the number of days and the charge of either of the bike stores? How do you know?

- What does the point (4, 480) mean in the context of the problem?

- How do we see the daily rate for each of the bike shops on the graph?

- Will there be another day in which the two stores will charge the same amount? How do you know?

Equations for the two Bike Shops

Bike City: $80x + 160 = y$

Bike Town: $120x = y$

- What do the two equations mean in the context of the problem? What does x represent and does y represent? What do the 80, 160 and 120 represent?

- Does either of these equations represent a proportional relationship? How do you know?

- How can we find the rate of change in the equations?

- Is either of the rates of change also a constant of proportionality? How do you know?

Name _____ Date_____

Lesson 12: Homework

Andrea made observations about the selling price of bulk candy that sold in three different-sized bags. She recorded those observations in the following table:

Ounces of Candy	6	8	16
Price in Dollars	1.80	2.40	4.80

a) Is there a proportional relationship between the amount of candy and the price? Why or why not?

b) Is there a unit rate associated with this problem?

c) Explain in writing what the unit rates mean in the context of this problem.

d) Explain in writing why it is helpful for Andrea to determine if the relationship between the amount of candy and the price is proportional before she buys a bag of the candy.