Name _____

Date _____ Pd. _____

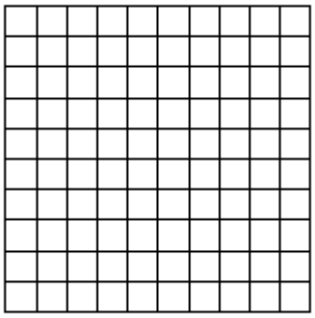
Notes: Inverse Variation

Graph Inverse Variation Situations in which the values of y decrease as the values of x increase are examples of **inverse variation**. We say that y varies inversely as x, or y is inversely proportional to x.

Inverse Variation Equation	

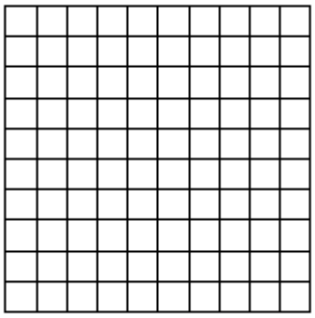
Example 1 **Suppose you drive 200 miles without stopping. The time it takes to travel a distance varies inversely as the rate at which you travel. Let x = speed in miles per hour and y = time in hours. Graph the variation.**

x	y
10	
20	
30	
40	5
50	4
60	3.3



Example 2 **Graph an inverse variation in which y varies inversely as x and $y = 3$ when $x = 12$.**

x	y
−6	
−3	
−2	
2	
3	
6	



Name _____

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Exit Card: Inverse Variation

ECR

The average speed and the amount of time it takes to get home from a vacation vary inversely. The table below represents this relationship.

Speed ***s*** ***(mph)***	Time ***T*** ***(hours)***
20	12
30	8
40	6

- What is the constant of variation? Explain how you determined your answer. Use words, symbols or both in your explanation.

- If the speed is 50 mph, how many hours will it take to get home? Explain how you determined your answer. Use words, symbols or both in your explanation.

Name _____

Date _____ Pd. _____

Homework: Pages 645 – 646 (17, 21, 22)

17. If $y = 12$ when $x = 5$, find y when $x = 3$.

21. If $y = 6.4$ when $x = 4.4$, find x when $y = 3.2$.

22. If $y = 1.6$ when $x = 0.5$, find x when $y = 3.2$.