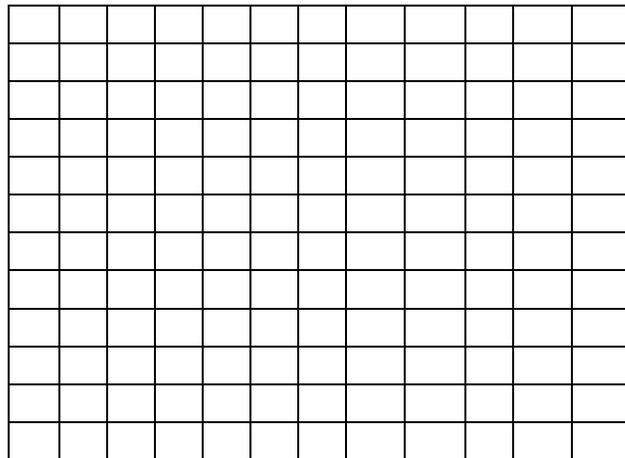


## Biking Home

Mike is riding his bike home from his grandmother's house. In the table below,  $x$  represents the number of hours Mike has been biking and  $y$  represents the number of miles Mike is away from home. Make a scatter plot for this data on the grid below.

Hours ( $x$ )	1	2	3	4	5	6	7	8
Miles ( $y$ )	35	29	26	20	16	9	6	0



1. Describe the association between the data points on the scatter plot.
2. Use a straightedge to approximate the line of best fit.
3. Using the line, approximate Mike's distance from home after  $2\frac{1}{2}$  hours.
4. Select two points on the line. *Read the scale carefully.*  
Use the two points to determine the equation of the line in slope-intercept form.
5. What does the slope represent in the context of the problem? What does the  $y$ -intercept represent in the context of the problem?
6. Use the equation for your line of best fit to find Mike's distance from home after  $2\frac{1}{2}$  hours. Is it the same as your answer in #3? Why or why not?
7. Compare your work with someone else's work. Do you have the same equations? Why are the equations the same/different?
8. Could you use your equation to predict how far Mike would be after 10 hours? Use mathematics to justify your answer.

## Biking Home Answer Key

1. The scatter plot has a negative association.
2. Answers may vary.
- 3-4 Answers may vary.
5. Slope represents how fast Mike is riding and y-intercept represents the distance Mike is from home.
6. About 28 miles but answers may vary.
7. Answers may vary.
8. Students should get a negative answer. That might be interpreted as “impossible” or that the biker is now going away from home.

Note: the calculated line is  $y = -4.9x + 40$