

Algebra I
1.7 Worksheet
Scatter Plots
Lines of Best Fit

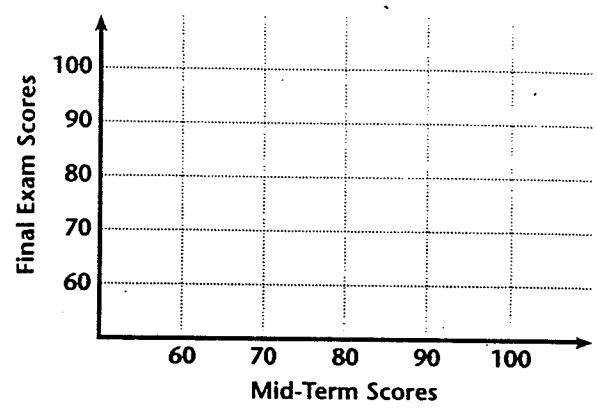
NAME: _____
DATE: _____ HOUR: _____

The table shows the mid-term and final exam scores for ten students in Mr. Brown's math class.

Mid-Term Scores (x)	75	85	70	80	95	90	80	95	95	75
Final Exam Scores (y)	80	90	70	75	85	95	80	90	95	75

- Graph the data in a scatter plot.
- Find the line of best fit. Explain whether or not it is a good fit.

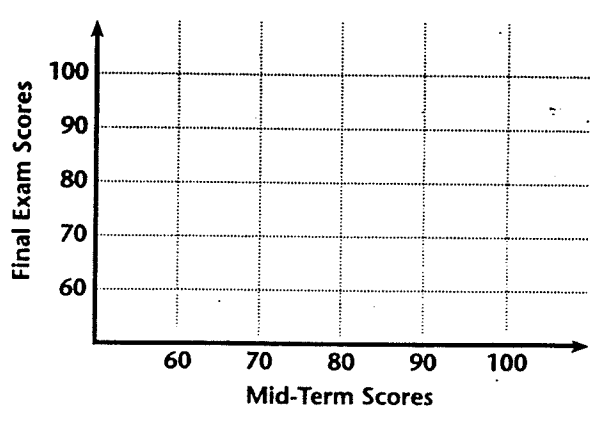
Estimate the correlation coefficient. _____



The test scores for Ms. Green's algebra class are shown in the table.

Mid-Term Scores (x)	70	80	70	90	95	85	80	70	95
Final Exam Scores (y)	95	80	70	80	75	70	75	85	70

- Graph the data in a scatter plot.
- Estimate the correlation coefficient. _____
- If you know a student's mid-term score in Mr. Brown's class, would you feel comfortable making a prediction of that student's final exam score? Explain why or why not.



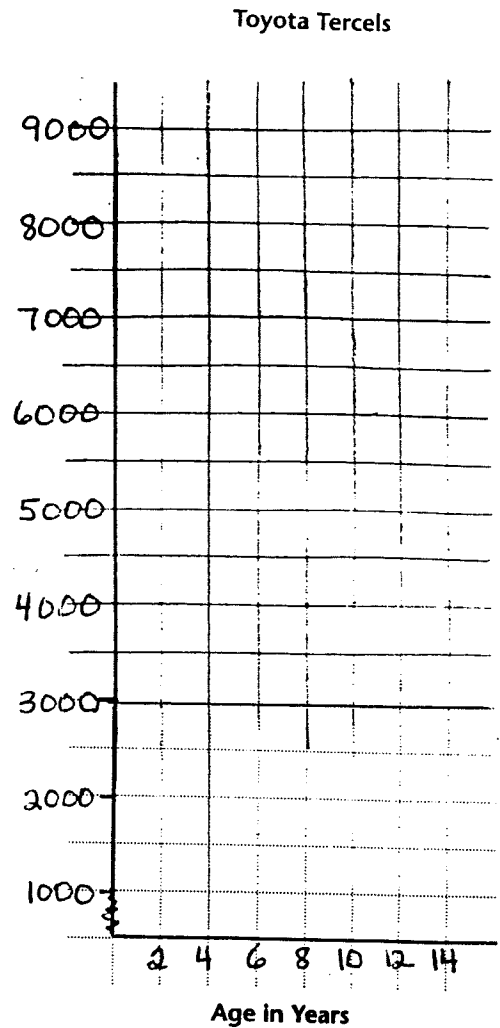
- Do you think it is possible to make a reasonable prediction about Ms. Green's class? Explain why or why not.

The prices of used cars vary depending on the age of the car, its condition, and its market value. The table below shows the prices of used Toyota Tercels taken from *The Denver Post*, February 13, 1994.

TOYOTA TERCELS

Age (yr)	Price
3	\$ 5250
13	1175
6	3500
6	2750
4	4750
6	3900
8	2895
5	5000
7	2695
1	7800
10	2000
2	6500
12	1675
6	3200
2	7200

Selling Price



- From the table, select the points of ordered pairs (Age in Years, Selling Price) and draw a scatter plot of the data. Use the x -axis for the Age in Years, and the y -axis for the Selling Price.
- Draw a straight line that seems to best fit the points on the graph.
- Use the scatter plot to predict the price of eight-year-old and eleven-year-old Tercels. Explain how you arrived at your answers.

8 year old Tercel = \$

11 year old Tercel = \$

- Explain whether there is a positive or negative correlation between the age of a car and the price and what the correlation describes.

- Based on the data, if you wanted to buy a two-year-old Tercel, how much would you expect to spend? Explain how you got your answer.

- Based on your line of best fit, how much would you expect to spend for a one-year-old Tercel?

- Based on your line of best fit, how much would you expect to spend for a brand new Tercel?