

5-7 Practice

Form K

Scatter Plots and Trend Lines

For each table, make a scatter plot of the data. Describe the type of correlation the scatter plot shows.

1.

Tips Earned by Waiter					
Hours Worked	2	3	6	8	9
Tips (\$)	36	62	120	148	165

2.

Foots Size and Height					
Foot Size (in.)	10	13	8	6	11
Height (in.)	70	77	66	61	72

3. Use the table below and a graphing calculator.

Ohio Resident Population							
Year	1960	1970	1980	1990	2000	2005	2010
Population (thousands)	9706	10,652	10,798	10,847	11,353	11,478	11,576

SOURCE: U.S. Census Bureau

- Make a scatter plot of the data pairs (years since 1960, population).
- Draw a line of best fit for the data.
- Write an equation for the line of best fit.
- According to the data, what will the estimated resident population in Ohio be in 2030?

5-7 Practice (continued)

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In each situation, tell whether a correlation is likely. If it is, tell whether the correlation reflects a causal relationship. Explain your reasoning.

4. the number of cabinets Omar assembles and the amount of time it takes him to assemble one
5. the number of darts thrown at the dart board and Jackie's average score in the game of darts
6. the dates of the summer beach vacation and the weather
7. **Open-Ended** Describe a real world situation that would show a strong positive correlation. Explain your reasoning.
8. **Writing** Describe how extrapolation could be useful in a business application.

9. Use the table below and a graphing calculator.

Sales of Hybrid Cars in the U.S.							
Year	2001	2002	2003	2004	2005	2006	2007
Cars Sold (thousands)	20	38	54	84	206	252	288

SOURCE: hybridcars.com

- a. Make a scatter plot of the data pairs (years since 2001, cars sold).
- b. Draw a line of best fit for the data.
- c. Write an equation for the line of best fit.
- d. According to the data, about how many hybrid cars will be sold in 2020?