

# 5-7 Practice

## Scatter Plots and Trend Lines

Form G

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

1.

Test Scores					
Test Score	76	85	88	97	92
Study Time (min)	33	52	49	101	65

2.

Tickets Sold					
Adult Tickets	10	20	30	40	50
Children Tickets	30	55	80	112	137

Use the table below and a graphing calculator for Exercises 3 through 6.

Florida Resident Population									
Year	1980	1990	1995	2000	2002	2003	2004	2005	2006
Population (in thousands)	9746	12,938	14,538	15,983	16,682	16,982	17,367	17,768	18,090

Source: U.S. Census Bureau

3. Make a scatter plot of the data pairs (years since 1980, population).

4. Draw the line of best fit for the data.

5. Write an equation for the trend line.

6. According to the data, what will the estimated resident population in Florida be in 2020?

**5-7****Practice** (continued)

Form G

## Scatter Plots and Trend Lines

Use the table below and a graphing calculator for Exercises 7 through 10.

Total Box Office Gross									
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Gross Revenue (in million \$)	7500	7750	8370	9320	9300	9450	8960	9300	9680

SOURCE: WWW.MEDIABYNUMBERS.COM

7. Make a scatter plot of the data pairs (years since 1999, revenue).
8. Draw the line of best fit for the data.
9. Write an equation for the line of best fit.
10. According to the data, what will the estimated gross revenue be in 2015?

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

11. the number of practice free throws you take and the number of free throws you make in a game
12. the height of a mountain and the average elevation of the state it is in
13. the number of hours worked and an employee's wages
14. a drop in the price of a barrel of oil and the amount of gasoline sold
15. **Open-Ended** Describe a real world situation that would show a strong negative correlation. Explain your reasoning.
16. **Writing** Describe the difference between interpolation and extrapolation. Explain how both could be useful.
17. **Writing** Describe how the slope of a line relates to a trend line. What does the y-intercept represent?