Scatter Plots
Student Activity

Name _____

Class _____

In these activities you will interpret points represented in a scatter plot in terms of the context represented by the paired variables. After completing the activities, discuss and/or present your findings to the rest of the class.

Activity 1 [Page 1.3]

1. Plot (average number of points per game, average number of rebounds per game).

    a. Identify any points that strike you as "outliers"- points that lie quite outside of the general set of points. Who are the players and how do they compare to the other players?

    b. Identify the players with the least number of rebounds per game. How did they do with respect to points per game?

2. Basketball players generally play one of five positions, center, point guard, shooting guard, small forward, and power forward. Plot (average number of rebounds, field goal percentage). Select **menu> Position**, and experiment with the different positions with respect to the plot.

    a. What are some observations you have with respect to any association between position and either rebounds or points scored?

    b. Change the vertical axis to number of assists (an assist is a situation in which one player passes the ball to a teammate who makes a basket). What do you observe?

c. Plot (free throw percentage, three point percentage). Describe where the players in different positions seem to cluster in the plot.

Activity 2 [Page 1.3]

1. Does there seem to be an association or relationship between the statistics in each of the following scatter plots? Explain your thinking.

   a. (field goal percentage, three-point percentage)

   b. (average number of rebounds per game, average number of points per game)

   c. (average number of rebounds per game, free throw percentage)

   d. (three point percentage, free throw percentage)

2. Remember earlier work graphing functions and equations, where one of the variables was an independent variable and the other was the dependent variable. In statistics, the dependent variable is often called the *response variable*.

   a. What do you think is meant by a "response variable"? Which axis will contain the response variables?

   b. Think about the plots in questions 1 and 2. In which of the plots could there be a response variable? Explain your reasoning.