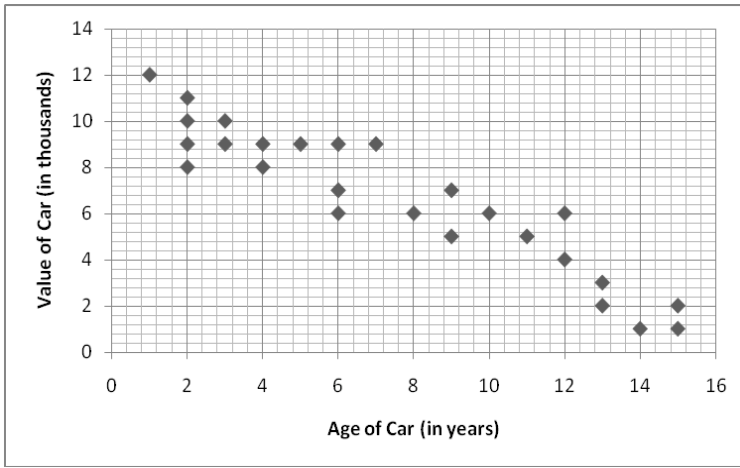Name _____

Predict the Future!

Using the data below, find the best fit line and then predict what the future will hold based on the scatter plot. When finished, answer the questions on the back.

A.   Test scores vs. Time spent studying: (X-axis = time studying; Y-axis = test score)
1.   Best-fit line equation: _____
2.   Based on this scatter plot, what can you say about study time and test scores?
_____
3.   Based on the best-fit line equation above, what would you predict would be the score for someone who studies for
a.   60 minutes? _____
b.   45 minutes? _____
c.   30 minutes? _____
d.   67 minutes? _____
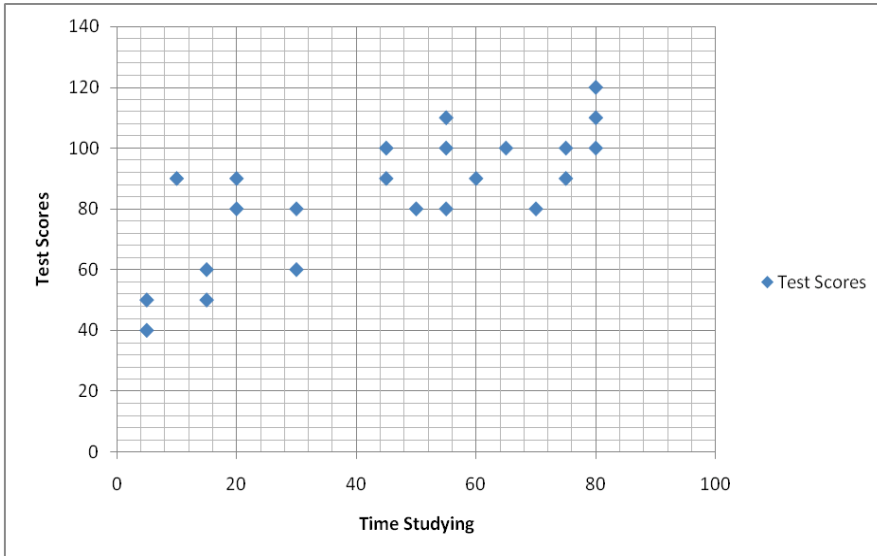
B.   Value of car vs. Age of car (X-axis = Age of car (years); Y-axis = Value of car in thousands)
1.   Best-fit line equation: _____
2.   Based on this scatter plot, what can you say about the relationship between the age of a car and its value?
_____
3.   Based on the best-fit line equation above, what would you predict would be value of a car:
a.   6 years old? _____
b.   11 years old? _____
c.   13 years old? _____
d.   17 years old? _____

1. What careers can you think of that could use best fit-lines in their line of work? (Name at least 3)

   a. _____

   b. _____

   c. _____

2. How could these careers use the best-fit lines? (Be specific.)

   a. _____

   b. _____

   c. _____

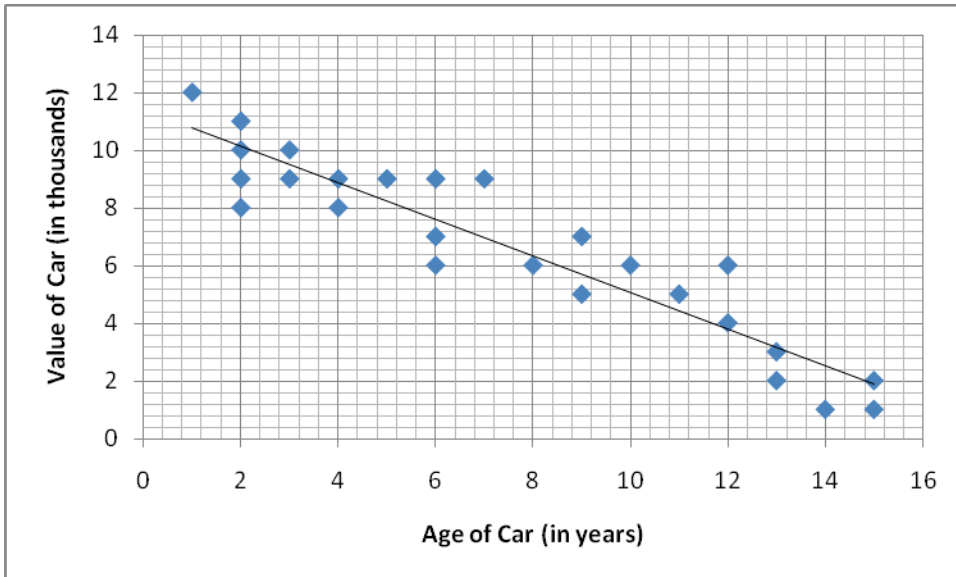3. What have you learned about best-fit lines that you didn't know before this lesson?

   _____

   _____

Predict the future!   (ANSWER KEY)

Using the data below, find the best fit line and then predict what the future will hold based on the scatter plot. When finished, answer the questions on the back.

A.   Test scores vs. Time spent studying: (X-axis = time studying; Y-axis = test score)
1. Best-fit line equation: **y = 0.61x + 57.4**
2. Based on this scatter plot, what can you say about study time and test scores?
    The more you study, the better your grades (answers will vary)
3. Based on the best-fit line equation above, what would you predict would be the score for someone who studies for: ***(based on rounding, answers could vary a little)***
    a.   60 minutes? **94**
    b.   45 minutes? **84.9**
    c.   30 minutes? **75.7**
    d.   67 minutes? **98.3**
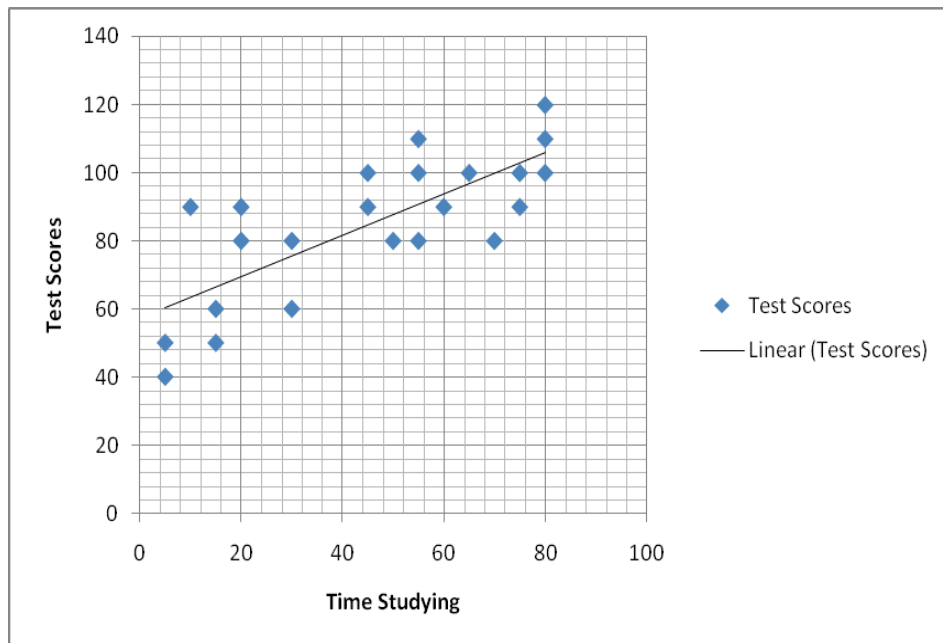
B. Value of car vs. Age of car (X-axis = Age of car (years); Y-axis = Value of car in thousands)
1. Best-fit line equation: **y = - 0.63x + 11.4**
2. Based on this scatter plot, what can you say about the relationship between the age of a car and its value?
    The older a car gets, the more it loses value (answers will vary)
3. Based on the best-fit line equation above, what would you predict would be value of a car:
    a.   6 years old? **$7620 (based on rounding, answers could vary—also students should multiply by $1000 to get correct answer)**
    b.   11 years old? **$4470**
    c.   13 years old? **$3210**
    d.   17 years old? **$690**

The figure shows a scatter plot with "Value of Car (in thousands)" on the y-axis (ranging 0 to 14) and "Age of Car (in years)" on the x-axis (ranging 0 to 16), with a downward-sloping best-fit line through the data points.

1. What careers can you think of that could use best fit-lines in their line of work? (Name at least 3)

    Answers will vary—use some of the ones students brainstormed at beginning of class)

    a. _____

    b. _____

    c. _____

2. How could these careers use the best-fit lines? (Be specific.)

    Answers will vary—any correlation that applies to the careers listed above should be accepted

    a. _____

    b. _____

    c. _____

3. What have you learned about best-fit lines that you didn't know before this lesson?

    Answers will vary

    _____

    _____