Name _____   **Date**_____

Lesson 12 Assessment

The table below shows the value, V (in thousands of dollars), of an investment x years after 1990.

x	1	2	5	8	12	15	18	21
$V(x)$	10.1	12.5	16.0	19.1	21.3	20.8	17.1	12.9

1. Use the table to determine $V(15)$. Write your answer as an ordered pair, and interpret its meaning in a complete sentence.

2. Use your graphing calculator to generate a scatterplot of this data set. Based on the scatterplot, *what type* of function do you think best fits this data set? Circle one.

   Linear   Exponential   Quadratic

3. Use your calculator to determine a regression equation for this data set. This must be the same type of function chosen in problem 2. Use function notation, and round to three decimal places as needed.

4. Use your graphing calculator to generate a scatterplot of the data *and* regression line on the same screen. You must use an appropriate viewing window. In the space below, draw what you see on your calculator screen, and write down the viewing window you used.
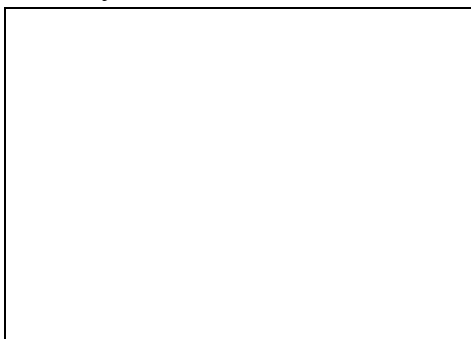
   Xmin=_____

   Xmax=_____

   Ymin=_____

   Ymax=_____

5. Use your regression equation to determine $V(15)$. Round your answer to the nearest hundredth. Write your answer as an ordered pair, and interpret its meaning in a complete sentence.

6. Your answers for questions 1 and 5 should be different. Why is this the case? Answer in a complete sentence.

7. Determine the value of this investment in the year 2013. Show your work, and write your answer in a complete sentence.

8. Determine the vertical intercept for $V(x)$. Write it as an ordered pair, and then write a sentence explaining its meaning in this situation.

9. Determine the horizontal intercept for $V(x)$. Write it as an ordered pair, and then write a sentence explaining its meaning in this situation.