Name_____

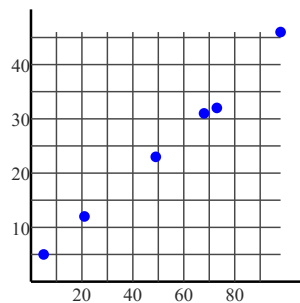# Response to LC 8.SP.2 and 8.SP.3

Date_____ Period____

Draw a line of best fit, find the equation of the line, and determine the residuals.
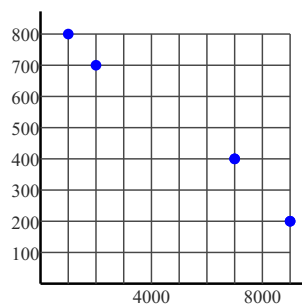
1)

X	Y
5	5
21	12

X	Y
49	23
68	31

X	Y
73	32
98	46

2)

X	Y
1,000	800
2,000	700
7,000	400

| X	Y
7,000	400
9,000	200
9,000	200

3) The number of nickels from a particular year found in a sample of 1,000 is related to the number of nickels that were minted that year. This can be expressed as $y = 3.37x - 10.5$ where x is the number of nickels minted in a particular year in hundreds of millions and y is the number of nickels from that year in a sample of 1,000.
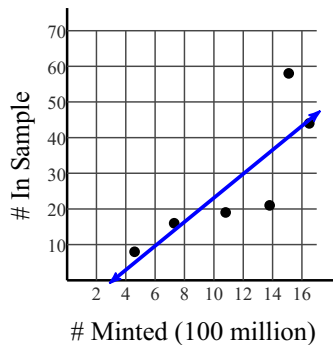
Minted (100 million)

a) What does the slope of the line represent?

b) What does the y-intercept of this function represent?

c) Using this model, in a sample of 1,000 nickels how many would you expect to be from a year in which 9.1 hundred million were minted? Round your answer to the nearest whole number.

d) A sample of 1,000 nickels contains 7 from a particular year. According to the model, how many would you expect to have been minted that year? Round your answer to the nearest tenth of a hundred million.

4) The number of marriage licenses issued by Clark County Nevada, the county where Las Vegas is located, has been decreasing since the year 2000. This can be modeled by $y = -4038.8x + 8225900$ where x is the year and y is the number of marriage licenses issued.
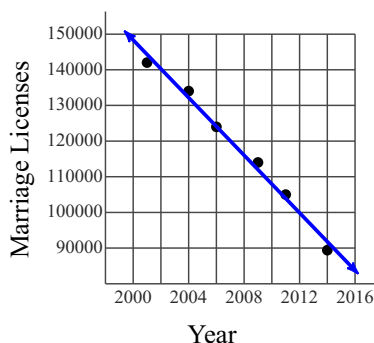
a) What does the slope of the line represent?

b) What does the y-intercept of this function represent?

c) According to the model, how many marriage licenses were issued in 2008? Round your answer to the nearest hundred.

d) According to the model, in what year did Clark County issue 140,000 marriage licenses? Disregard years before 1990. Round your answer to the nearest year.

Answers to Response to LC 8.SP.2 and 8.SP.3

1) Linear
   $y = 0.42701x + 2.4867$

2) Linear
   $y = -0.071507x + 867.12$

3) Slope: The additional number of nickels from a particular year you'd expect to find in a sample of 1,000 for every additional hundred million minted
   Y-intercept: Number of nickels in a sample of 1,000 from a year in which none were minted
   20 nickels, 5.2 hundred million nickels

4) Slope: The change in the number of marriage licenses issued each year
   Y-intercept: The number of marriage licenses issued in the year 0
   116,000, 2002