

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Investigate the Population Growth of Decimal Point****BLM 7-7****Select and Apply a Mathematical Model**

The population of Decimal Point has been steadily growing for several decades. The table gives the population at 5-year intervals, beginning in 1920, the year the town's population reached 1000.

<b>Time (years)</b>	<b>Population</b>
0	1000
5	1100
10	1180
15	1250
20	1380
25	1500
30	1600

- a) Create a scatter plot to illustrate this growth trend, using graphing technology. Describe the trend.
  
- b) Construct a quadratic model to fit the data. Write the equation.
  
- c) Construct an exponential model to fit the data. Write the equation.
  
- d) Which model is superior, and why?
  
- e) Suppose it is decided that a recreation centre should be built once the town's population reaches 5000. When should the recreation centre be built?