**Quadratic Models** 

Hour \_\_\_\_\_

The table shows the average price P (in dollars) for a personal computer from 1997 to 2002.

| Year, t | Average Price, P |
|---------|------------------|
| 1997    | 1450             |
| 1998    | 1300             |
| 1999    | 1100             |
| 2000    | 1000             |
| 2001    | 900              |
| 2002    | 855              |

1. Use a graphing calculator to create a scatter plot of the data. Let t represent the year, with t = 7 corresponding to 1997.

2. Use the regression feature of your graphing calculator to find a linear model for the data. What is the coefficient of determination for this model (what is  $r^2$ )?

3. Use the regression feature of your graphing calculator to find a quadratic model for the data. What is the coefficient of determination for this model (what is  $r^2$ )?

4. Determine which model best fits the data and explain your decision.

5. Use the model you chose in #5 to predict the average price for a personal computer in 2008. Does your answer seem reasonable? Explain.