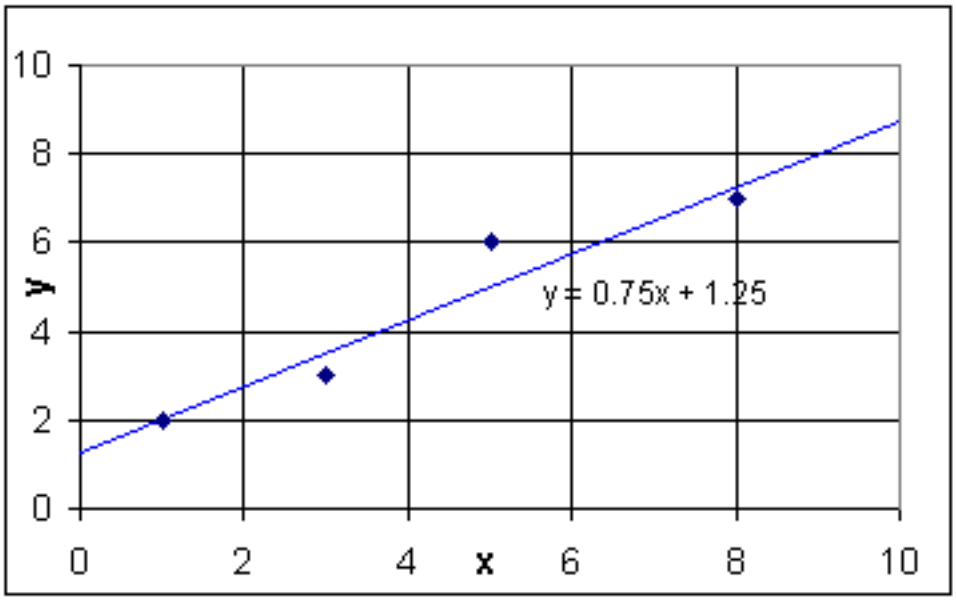
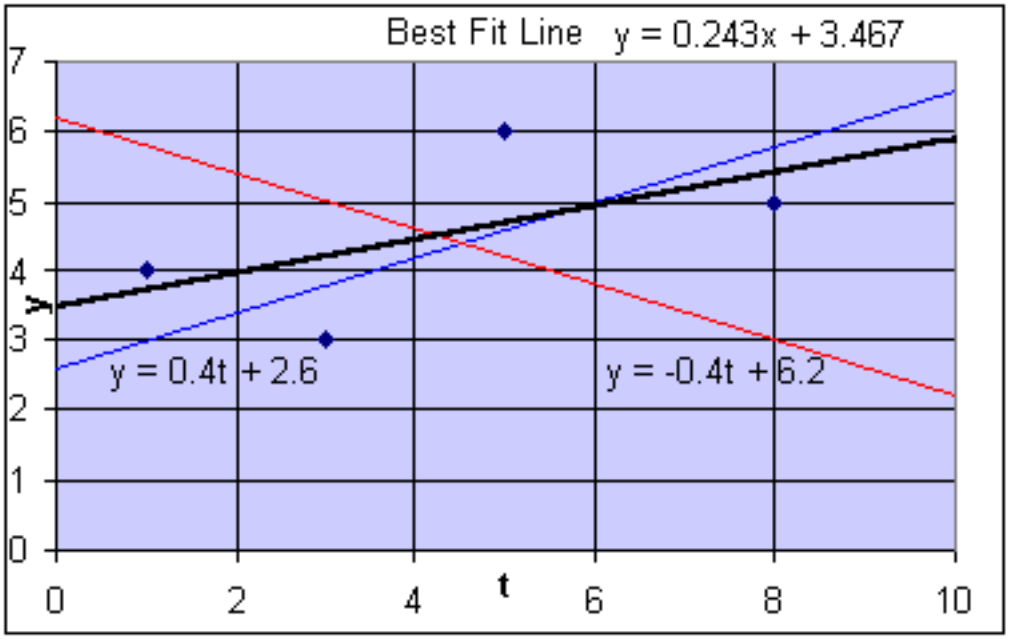
1. The errors $e_1 = 0$, $e_2 = 0.5$, $e_3 = 1$, and $e_4 = 0.25$. Sum of squares of the errors is 1.3125. Below is the graph.



2. a. Model A shows an increasing relationship, while Model B shows a decreasing relationship. Below is the graph.

b. The sum of the squares of the errors for Models A and B are 4.24 and 14.48, respectively. Thus, Model A is better.

c. The formula from the appendix gives $a = 0.243$ and $b = 3.467$, which is the least squares best fit line shown on the graph. Researcher A had the better intuition by this measure, but clearly insufficient dat were collected for a good analysis.



3. a. The sum of the squares error is 0.00292. The graph for both parts is below.

b. The fourth data point is most likely in error. The sum of the squares error without the fourth point is 0.000123, which is only 4% of the value from Part a. The error in the slopes is 2.24%.