Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 2 – Derivatives Free Response Problem Set**

The graph of the function *f* and a table of selected values of are shown above. The graph of *f* has a horizontal tangent line at , is concave down for , and is linear for .

1. (2 pts)Approximate the value of using the data from the table. Show the computations that lead to your answer.
2. (2 pts) Is there a value of *x*, for , such that ? Show all work.
3. (1 pt) Find the value, or explain why it does not exist.