

## Complete Graphs

### Math 111

For each of the following functions, find a viewing rectangle that shows the important features of the graph. Find the domain and range,  $x$  and  $y$  intercepts, local maximum and minimum values, the basic shape and end behavior. These functions have been carefully selected so that you will have to use your knowledge of the graphical properties of lines, quadratics, and other functions to be successful. Good luck!<sup>1</sup>

Example 1:  $y = 0.002x + 436$

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<sup>1</sup> Thanks to Sally Fischbeck (1994) and Stuart Moakowitz (2003) for these gems.

Example 2:  $f(x) = \frac{3}{7}x + 0.1$

Example 3:  $g(x) = x^2 - 2x + 100$

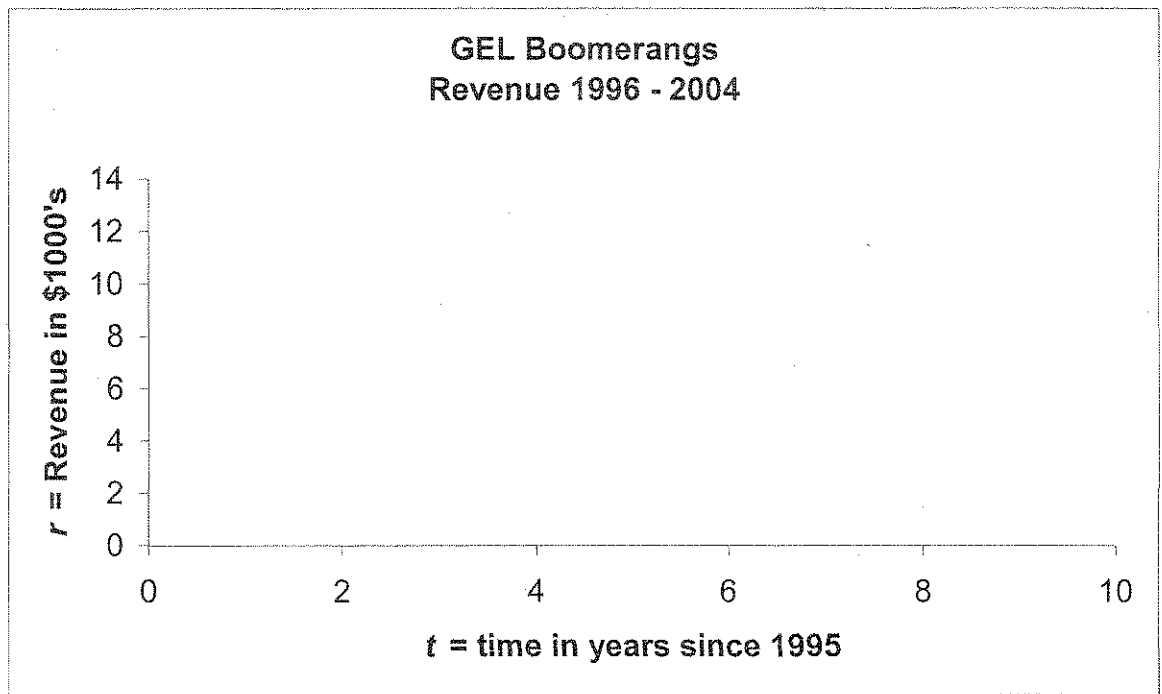
Example 4:  $y = |99 + 2x - x^2|$

**Instructions:** Answer each question using a complete sentence.

- 1.) What is the relationship between profit, cost, and revenue? \_\_\_\_\_
- 2.) Using this formula and the graphs previously given to describe profit and costs, complete the following table.

Function	$t=1$	2	3	4	5	6	7	8	9
Profit									
Cost									
Revenue									

- 3.) Carefully, plot points and sketch a smooth curve to generate a graph of GEL Boomerangs' Revenue from 1996 – 2004.



- 4.) Find and interpret  $r(7)$  \_\_\_\_\_
- 5.) Solve and interpret  $r(t) = 7$ ? \_\_\_\_\_
- 6.) Find and interpret  $r(5) - r(2)$ ? \_\_\_\_\_
- 7.) Find and interpret  $\frac{r(5) - r(2)}{5 - 2}$ ? \_\_\_\_\_

