

Name: _____

QUIZ 5
305G 9-24-08

1. A function of the form $f(x) = a_n x^n + a_{n-1} x^{n-1} + \cdots + a_1 x + a_0$ where a_n, \dots, a_0 are all real numbers, $a_n \neq 0$, and n is a positive, nonzero integer, is called a _____ function.

2. Consider the function $g(x) = -2x^2 - 4x - 5$
 - a. Complete the square to write $g(x)$ in the form $g(x) = a(x - h)^2 + k$.

 - b. Does the graph open up or down?

 - c. What is the vertex of the graph of g ?

 - d. Does the vertex correspond to a local maximum or a local minimum of g ?

- e. Where is g increasing? Where is g decreasing? In order to receive any credit, make sure you label your intervals as increasing and decreasing.
- f. What is the equation for the axis of symmetry?
- g. What is the y -intercept of g ?
- h. Use the vertex (part c) and the y -intercept (part g) to plot the graph of g .

