

Name:

This quiz covers: 2.2 and 2.3.

Directions: Complete all questions and **show all applicable work.** Partial credit will be given. All questions are equally weighted.

1.) Graph the following quadratic function *clearly stating* how you found the vertex, concavity (ie. open up or down), y-intercept and x-intercepts.

$$y = 1 - (x - 3)^2$$

2.) Describe the tail behavior (for very large positive and very large negative x-values) of the following polynomial.

$$f(x) = -3x^4 + x^3 - 8x^2 + 2x + 31$$

3.) Graph the following function, *show* how you arrived at your solution, including intercepts and tail behavior:

$$f(x) = -x^2(x + 2)$$