HW: 3.5 Graphing Polynomial Functions Algebra 2 Kitt

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_

1. After factoring, sketch the graph of the equation $y = -x^{3}+2x^{2}-x$

2. Sketch the graph of the equation with a root at –2 with a multiplicity of 2, a single root at 5, a root at 0 with a multiplicity of 3 and a double root at 2. Assume the leading coefficient is negative. Write the equation of the function that describes the graph.

 Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For each graph below, identify the following:

A) The zeros of the function and their multiplicity.

B) Whether the degree is odd or even.

C) The number of turning points.



3. 4. 5.

A) A) A)

B) B) B)

C) C) C)

Sketch the graph of each function. In some cases, you will need to factor first.

6. f(x) = (x + 1)(x – 2)(x – 4)

7. f(x) = -(x + 3)(x + 2)(x – 1)3

8. f(x) = -x(x + 5)2(x + 3)

9. f(x) = x5-3x4-x3+3x2

10. f(x) = -x5+4x4-4x3