**LT #2: Linear Factors and Zeros**
1. Write the equation of a polynomial function in standard form with zeros of 2, -1, and 0. (3 Points)

1.
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.

Zero: Mult:

Zero: Mult:

Zero: Mult:

Zero: Mult:

3.

a. Degree: \_\_\_\_\_\_

b. End Behavior:

On the left, the graph \_\_\_\_\_\_

On the right, the graph \_\_\_\_

c. x = \_\_\_\_, m = \_\_\_\_\_

 x = \_\_\_\_, m = \_\_\_\_\_

 x = \_\_\_\_, m = \_\_\_\_\_

d. See graph at left

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2. State the zero(s) and their multiplicity for f(x) below: (4 points)

$$f\left(x\right)=-2x(x-3)^{3}(x+4)(x+1)^{2}$$

3. $g\left(x\right)=-2(x-1)^{3}(x+2)(x+1)^{2}$

a. Determine the degree. (1 Point)

b. Determine the end behavior. (2 Points)

c. State the zeroes and multiplicity: (3 points)

d. Sketch the graph of the function g(x): (4 Points)

