Name: _____ **Period:** _____ **Date:** _____

5-6 Day 2 Analyzing Graphs of Polynomial Functions

Multiplicity: - _____

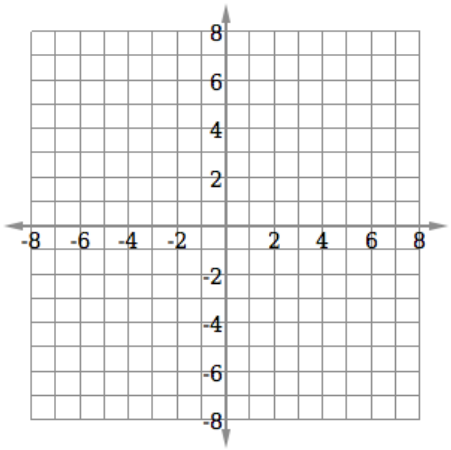
If a zero of a function has multiplicity that is:

1: _____ odd: _____ even: _____

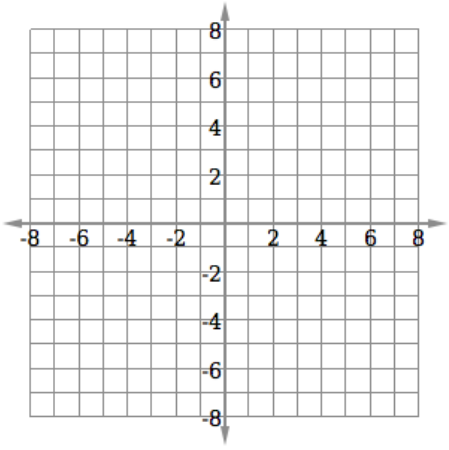
<u>Graphing a polynomial function by hand:</u>

1. Find and plot the x-intercepts (noting their multiplicities)
2. Find and plot the y intercept and at least one point on the function for each of the intervals between the x-intercepts.
3. Determine the end behaviors.
4. Sketch the curve.

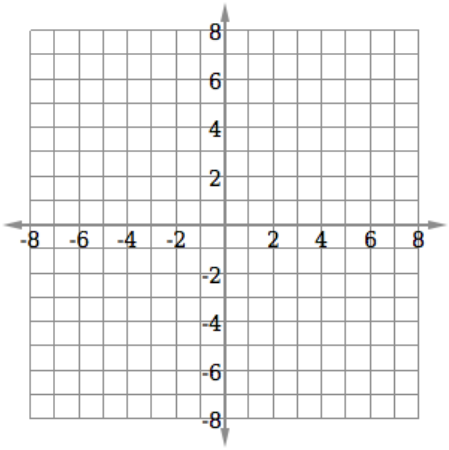
1) Sketch: $f(x) = (x+3)(x+1)(x-2)$



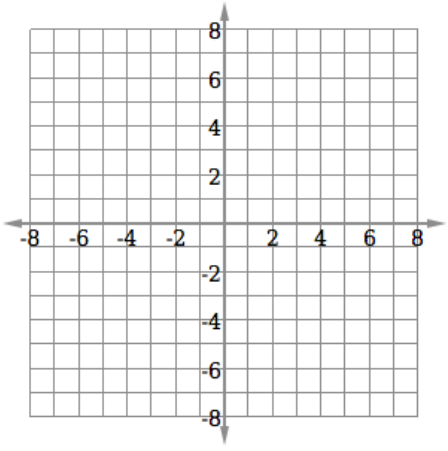
2) Sketch: $f(x) = (x+1)(x-1)^2$



3) Sketch: $f(x) = (x-1)(x-3)(x+1)^2$

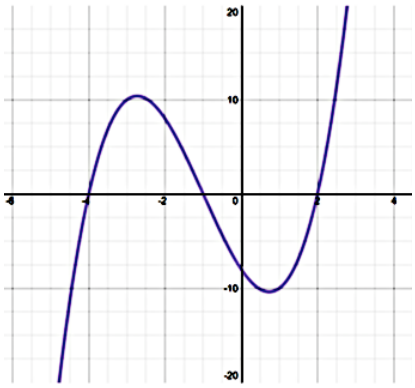


4) Sketch: $f(x) = (x+1)(x-2)^3$



Write the equation for each polynomial function in factored form:

5)



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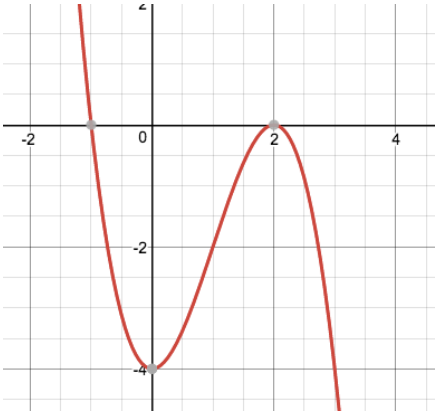
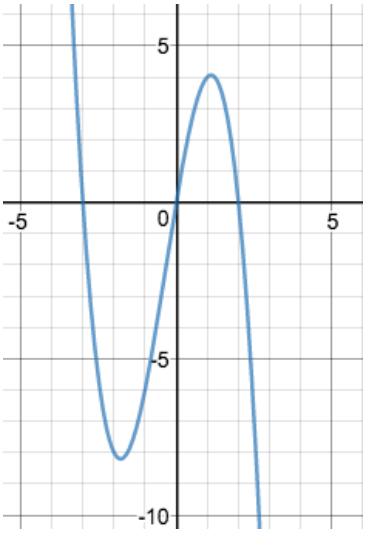


7)



8)