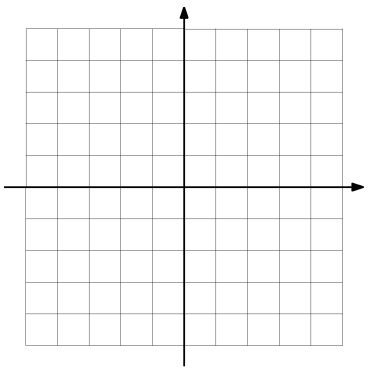
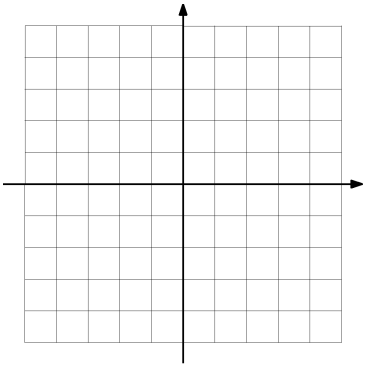
CCSS Advanced Algebra 4 Name:_____
Graphing Polynomials

1. After factoring, sketch the graph of the equation $y = -x^3+2x^2-x$. Remember to look for common terms.



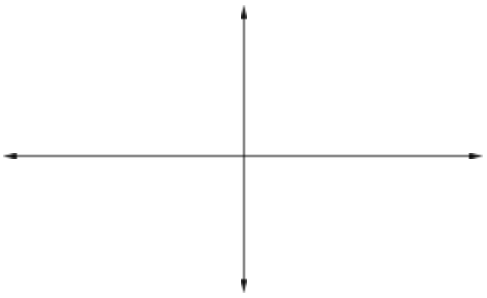
2. Sketch the graph of the equation with a double root at –2, a single root at 5, a triple root at 0 and a double root at 2. Assume the leading coefficient is negative. Write the equation of the function that describes the graph.

Equation: _____



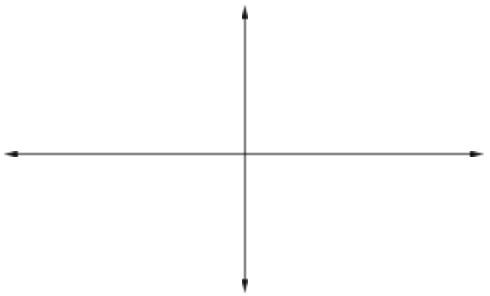
Sketch the graph of each function.

7. $f(x) = (x + 1)(x – 2)(x – 4)$

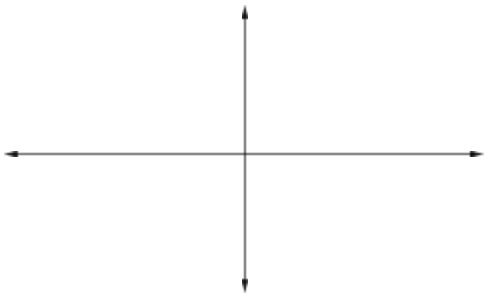


8. $f(x) = -(x + 3)(x + 2)(x – 1)^3$

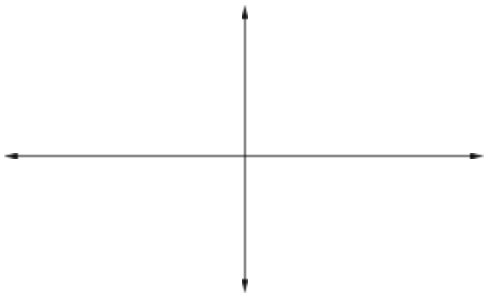
9. $f(x) = -x(x + 5)^2(x + 3)$



10. $f(x) = x^5-3x^4-x^3+3x^2$
Given that $f(-1)=f(1)=0$



11. $f(x) = -x^5+4x^4-4x^3$
Given that $f(2)=0$



12. $f(x) = x^2(x - 1)^2(2 + x)$