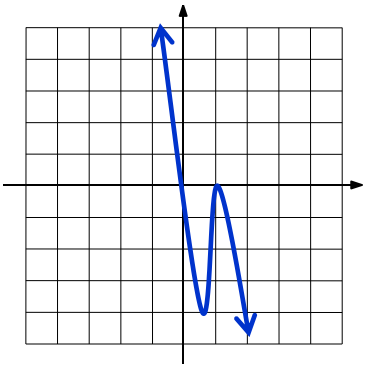
Algebra II
Graphing Polynomials Worksheet 8.5

Name:_____
Per:_____Date:_____

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

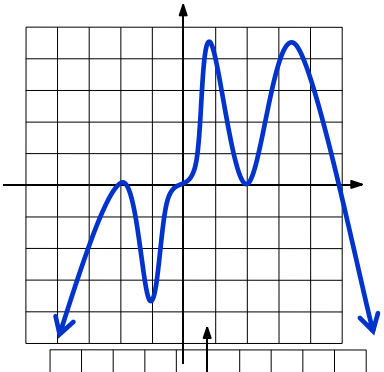
$y= -x(x-1)^2$



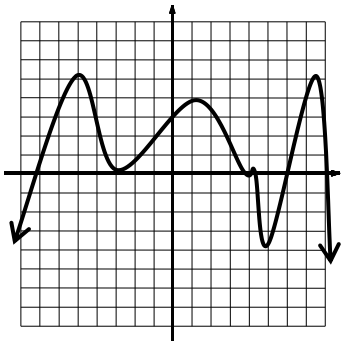
2. Sketch the graph of the equation with a double root at –2, a single root at 5, a triple root at 0 and a double root at 2. Assume the leading coefficient is negative. Write the equation of the function that describes the graph.

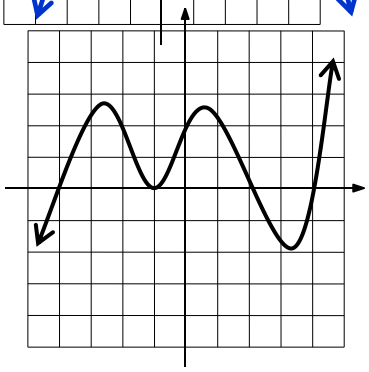
Equation: _____

$y= -x^3(x+2)^2(x-2)^2(x – 5)$

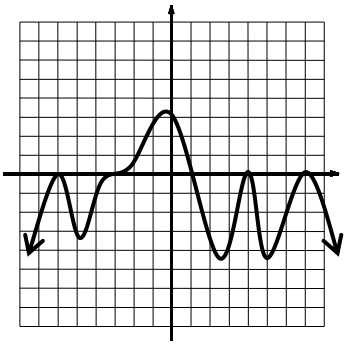


Write the equation for each polynomial graph shown.

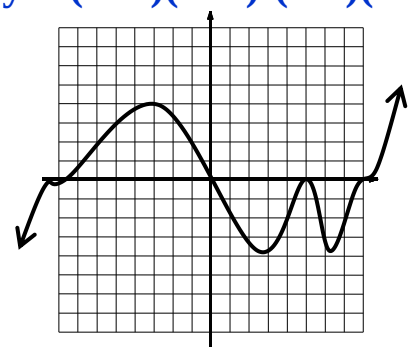




3. **$y = -(x+7)(x+3)^2(x-4)^3(x-6)(x-8)$**



4. **$y = (x+4)(x+1)^2(x-2)(x-4)$**

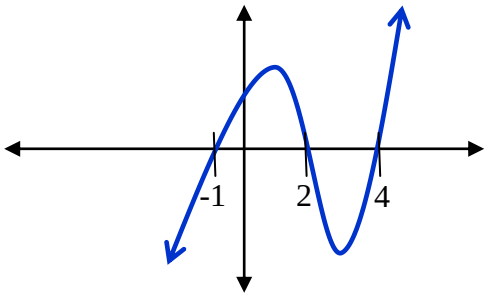


5. **$y = -(x+6)^2(x+3)^3(x-1)(x-4)^2(x-7)^2$**

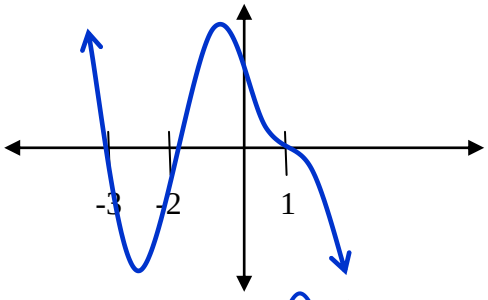
6. **$y = x(x+8)^3(x-5)^2(x-8)^3$**

Sketch the graph of each function.

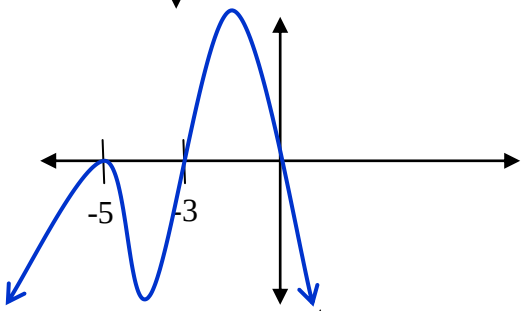
7. $f(x) = (x + 1)(x – 2)(x – 4)$



8. $f(x) = -(x + 3)(x + 2)(x – 1)^3$

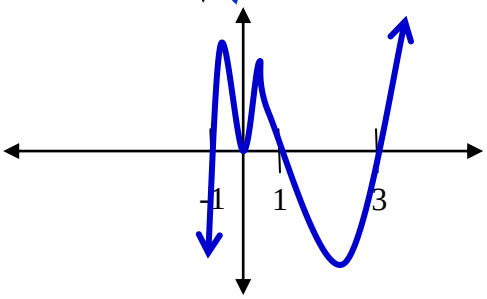


9. $f(x) = -x(x + 5)^2(x + 3)$



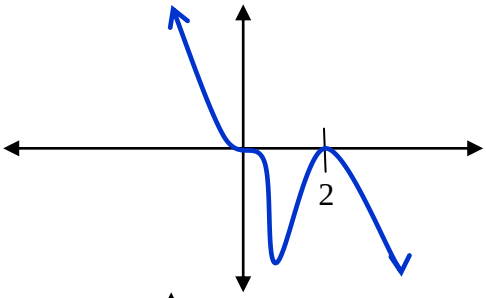
10. $f(x) = x^5-3x^4-x^3+3x^2$

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



11. $f(x) = -x^5+4x^4-4x^3$

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



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