

Circle whether the function is even or odd. Then describe end behavior of the graph of the polynomial function.

<p>1. $f(x) = -6x^3 + 8x$</p> <p>Symmetry: even, odd End Behavior: <i>As</i> $x \rightarrow \infty, y \rightarrow$ _____ <i>As</i> $x \rightarrow -\infty, y \rightarrow$ _____</p>	<p>2. $f(x) = 7x^4 - x^3 + 7x + 1$</p> <p>Symmetry: even, odd End Behavior: <i>As</i> $x \rightarrow \infty, y \rightarrow$ _____ <i>As</i> $x \rightarrow -\infty, y \rightarrow$ _____</p>
<p>3. $f(x) = 5x^3 - 5x^2 - 7x - 3$</p> <p>Symmetry: even, odd End Behavior:</p>	<p>4. $f(x) = x^5 - 6x^7 - 4x$</p> <p>Symmetry: even, odd End Behavior:</p>
<p>5. $f(x) = 2x^2 - 1$</p> <p>Symmetry: even, odd End Behavior:</p>	<p>6. $f(x) = -11x^4 - 7x^2$</p> <p>Symmetry: even, odd End Behavior:</p>
<p>7. $f(x) = 4x^3 - 5x$</p> <p>Symmetry: even, odd End Behavior:</p>	<p>8. $f(x) = -5x^4 - 2$</p> <p>Symmetry: even, odd End Behavior:</p>

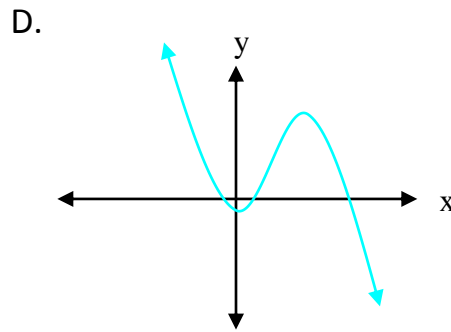
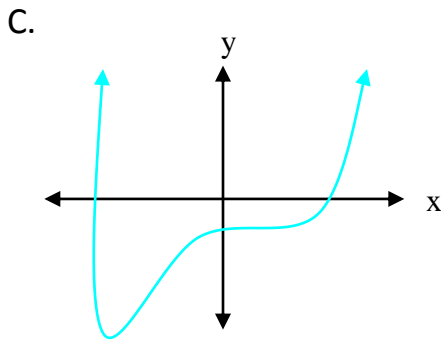
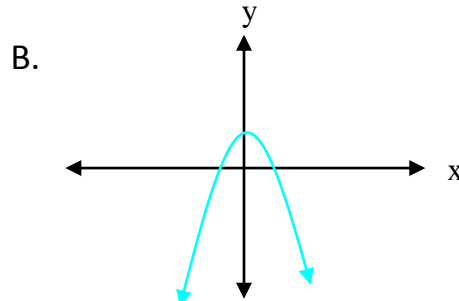
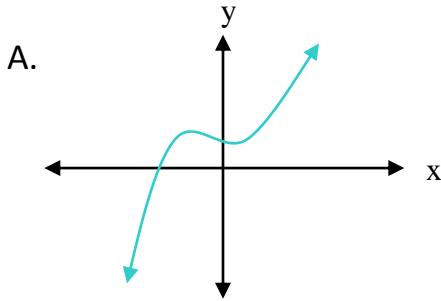
Use what you know about end behavior to match the polynomial function with its graph.

9. $f(x) = 4x^6 - 3x^2 + 5x - 2$

11. $f(x) = -x^4 + 1$

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

12. $f(x) = 6x^3 + 1$



Use the following functions for problems 13-18.

$f(x) = -x^2 + 3x - 7$

$g(x) = 9x - 5$

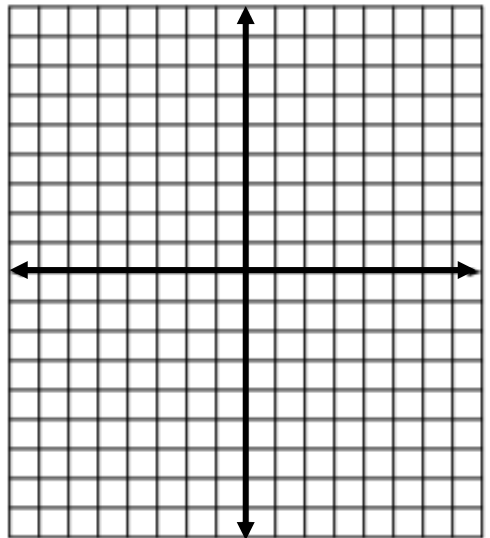
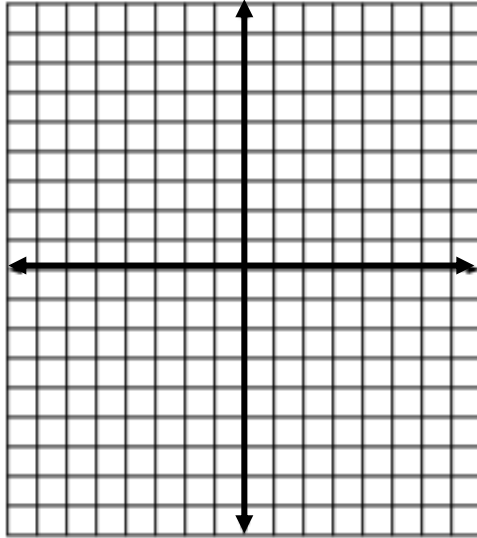
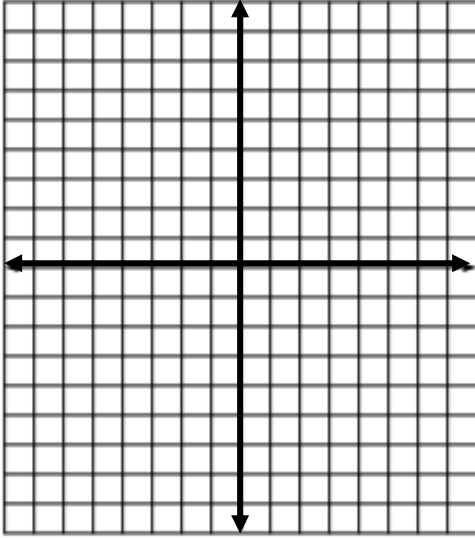
$h(x) = \sqrt{-4x + 32}$

13. Find $f(-5)$	14. Find $f(a + 2)$	15. Find $g(a + 2)$
16. Find $h(4)$	17. Find $-2 \cdot f(a + 2) - 3 \cdot g(a + 2)$	18. Find $f(3m^2)$

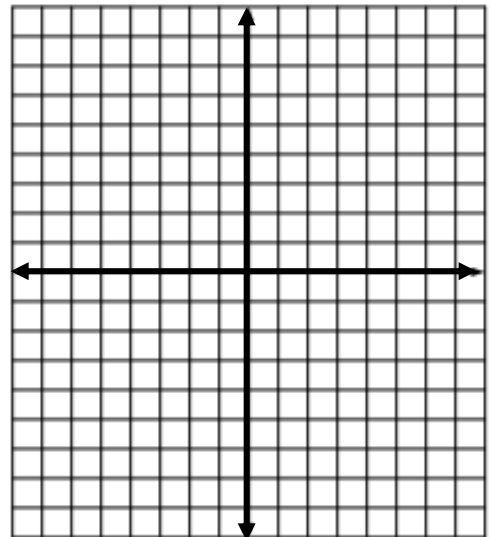
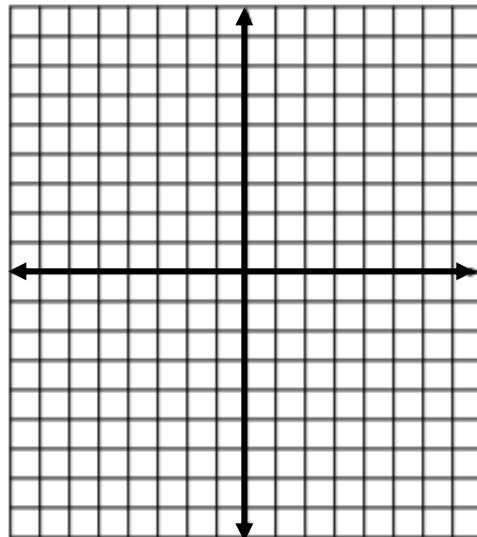
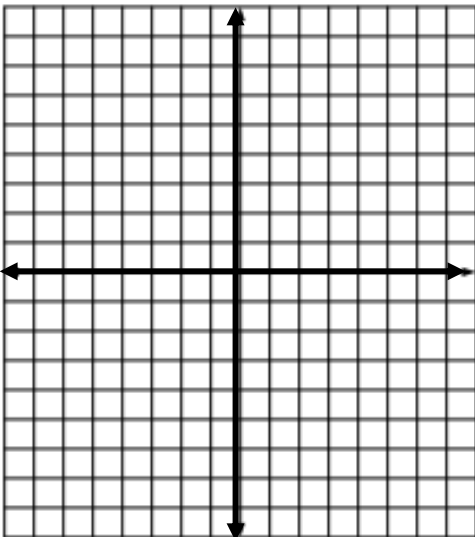
T5-4 Retake Problems Analyzing Graphs of Polynomials

Using a calculator sketch the following functions. Determine and label LIST all x-intercepts, y-intercepts, and local and relative maximums and minimums.

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

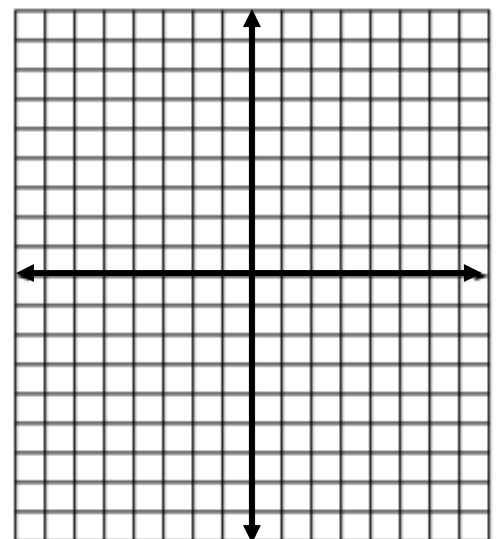
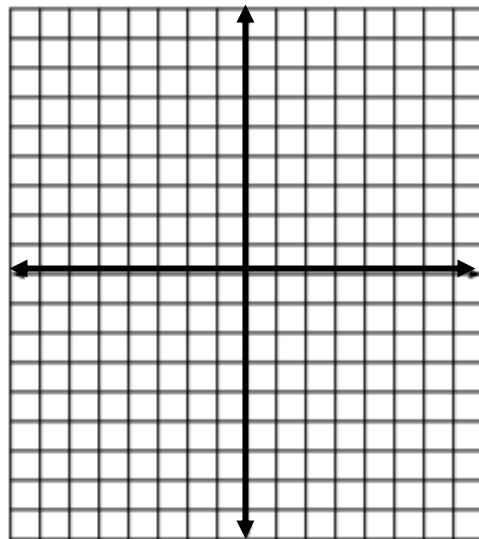
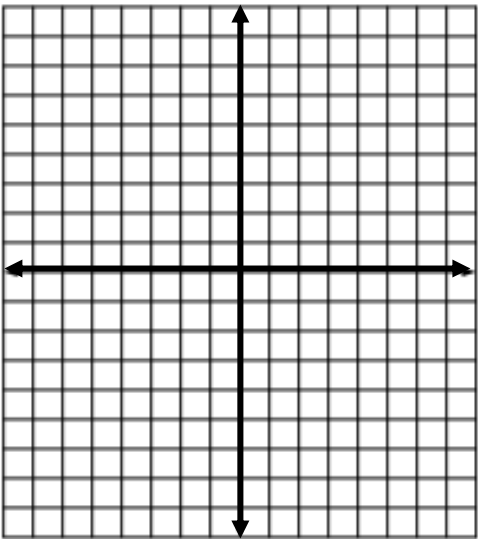
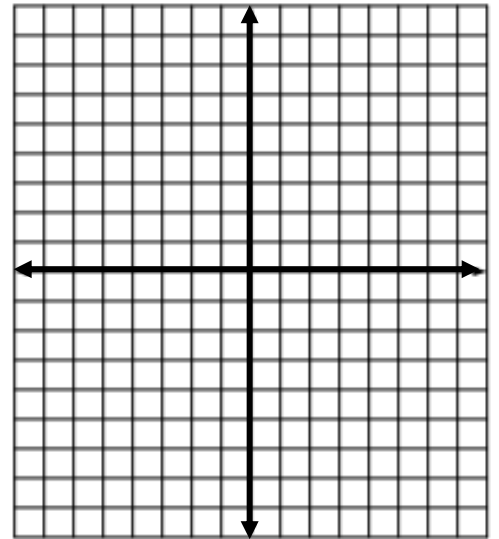
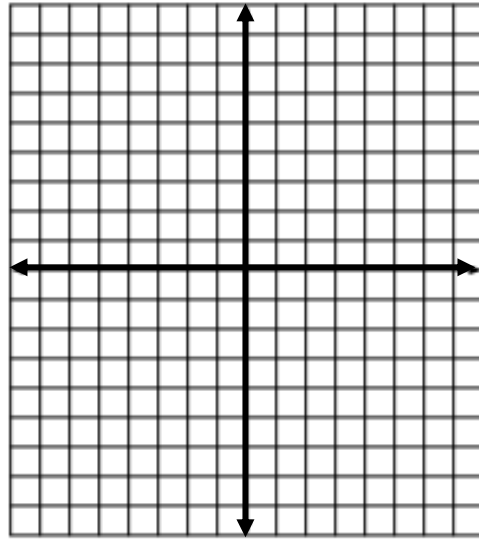
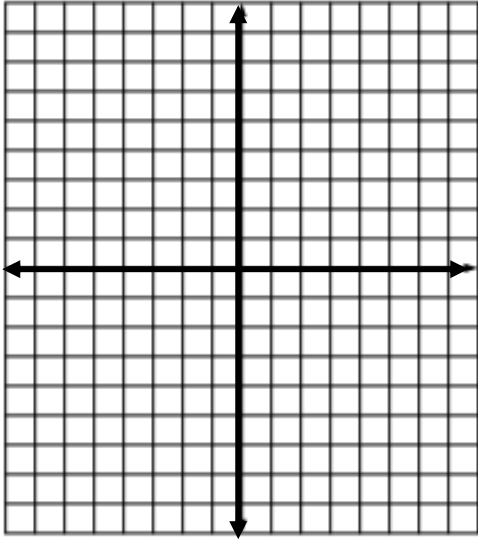


4. $f(x) = -4x^4 + 5x^3 + 2x^2 + 3x + 1$
5. $f(x) = x^3 + x^2 - 6x - 3$
6. $f(x) = 3x^3 - 6x^2 - 2x + 2$

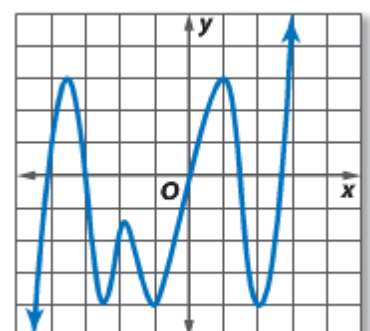
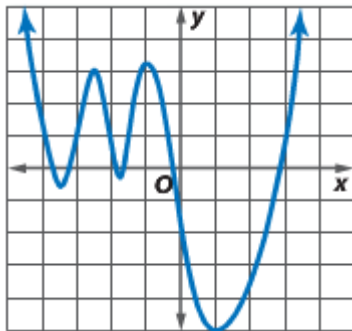
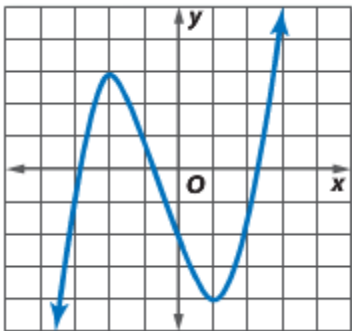


Sketch the graph of polynomial functions with the following characteristics.

7. An even function with zeros at -5, -3, 0, 2 and 4.
8. An odd function with zeros at -2, 1, 3 and 5.
9. A 4th-degree function with a zero at -5, maximum at $x = 2$, and minimum at $x = -1$.
10. A 5th-degree function with zeros at -5, 0, and 4, maximum at $x = -2$.
11. An odd function with zeros at -1, 2 and 5 and a positive leading coefficient.
12. An even function with a minimum at $x = 3$ and a negative leading coefficient.



For the following estimate the every zero, y-intercept, local and relative minimums and maximums and determine the smallest possible degree of the function.



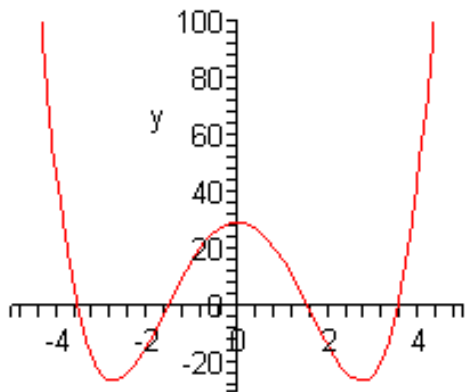
T5-5 Graphing Polynomials
 RETAKE WS

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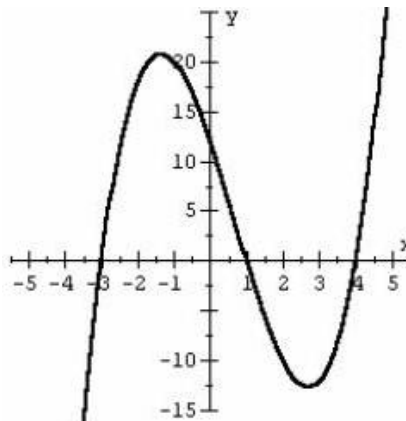
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Identify the zeroes and y-intercept for each graph and then write the equation in factored form.

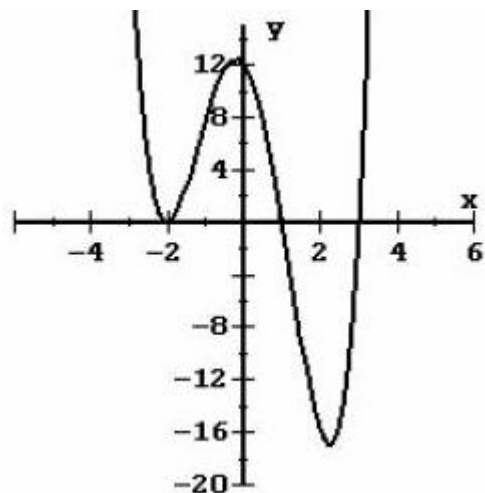
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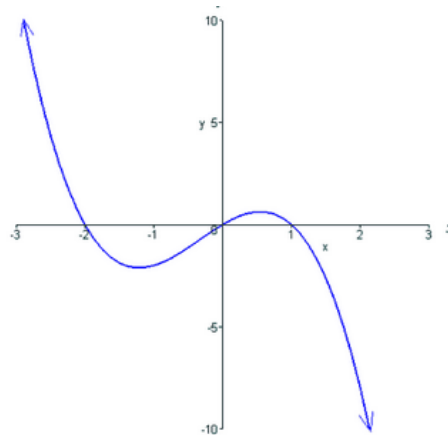
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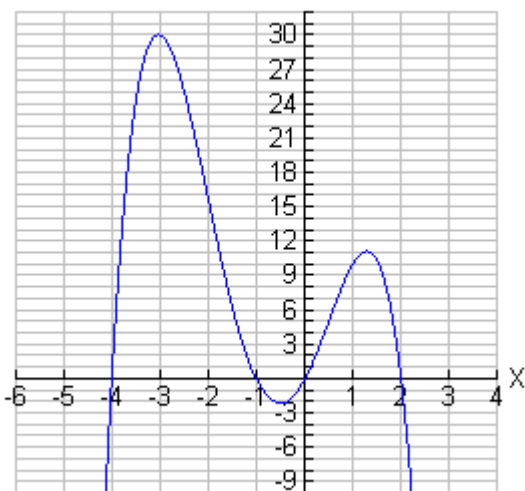
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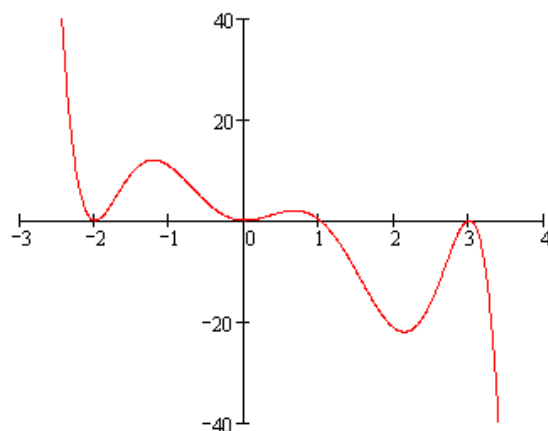
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5.

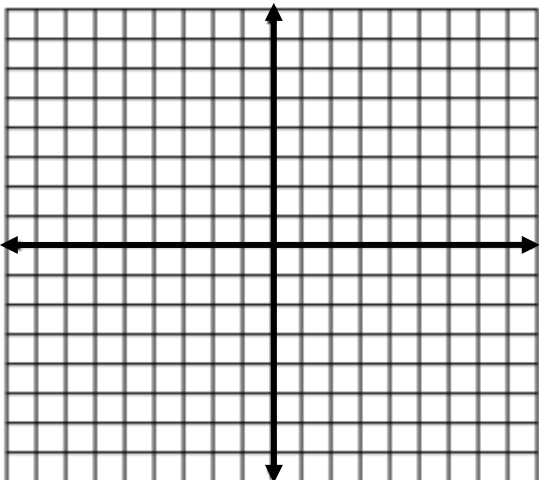


6.

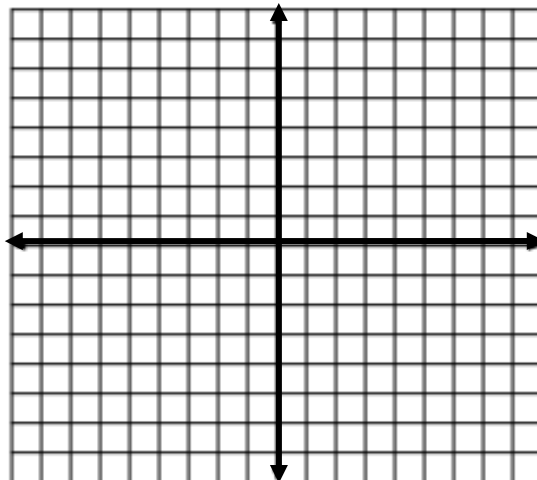


For #6-11, identify the zeroes and y-intercept for each equation. Then sketch the graph of each function.

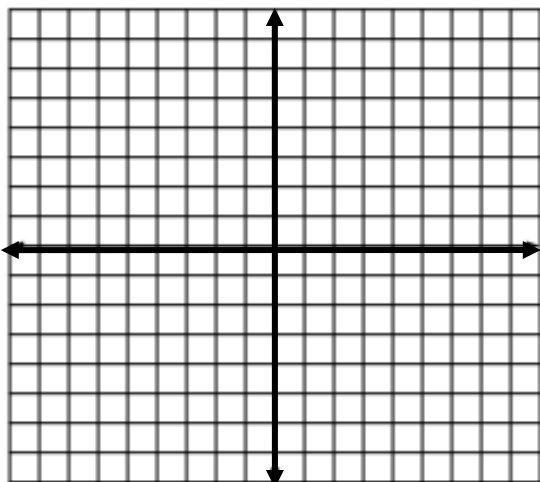
6. $f(x) = x^2(x - 1)(x + 2)(x + 4)$



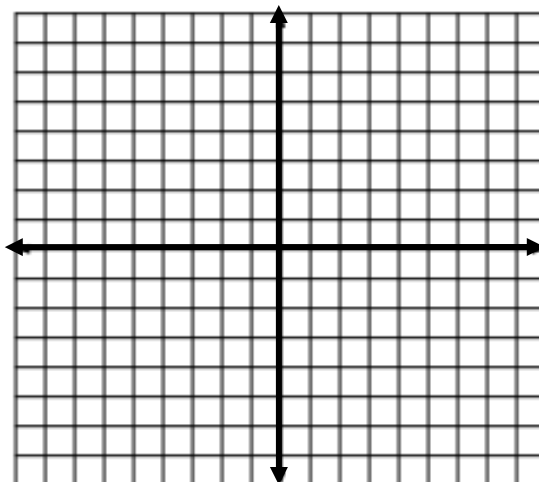
7. $f(x) = -x(x + 3)(x + 2)(x - 1)^2$



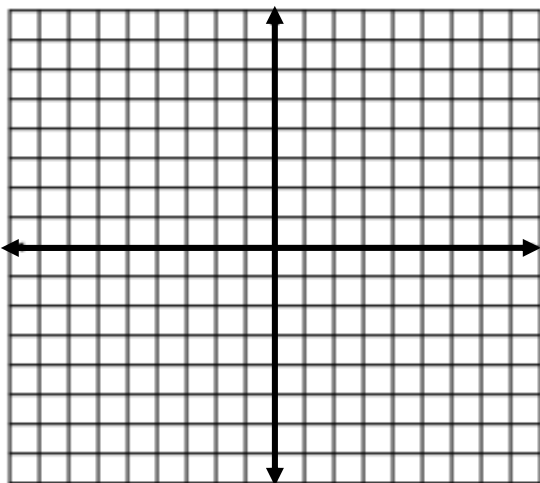
8. $f(x) = -3(x + 5)^2(x + 3)$



9. $f(x) = 4(x - 3)(x - 3)(x + 6)$



10. $f(x) = -2(x - 1)(x + 2)(x + 5)(x - 3)$



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

