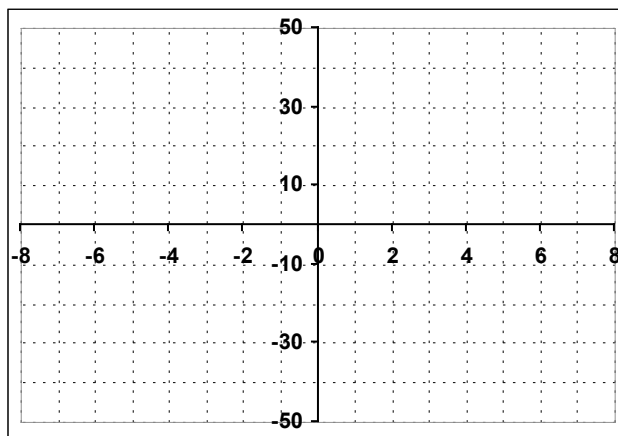


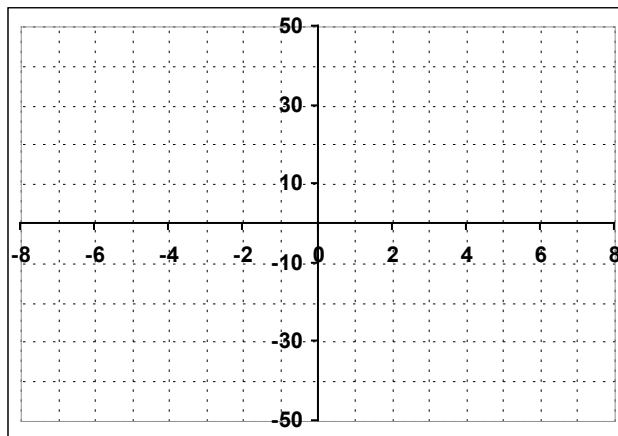
**Do not use a calculator.**

**For each** polynomial, state: degree, leading coefficient, and then sketch the graph. For each graph, **label** all x-intercepts and y-intercepts. Make sure the end behavior and the forms of the zeros are correct. The y scale does not have to be accurate except at the y-intercept, if given. Check your graphs with a graphing calculator, but do not use the calculator to help solve the problem.

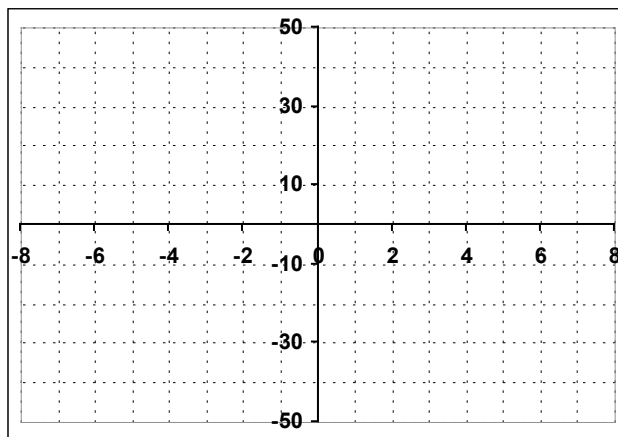
1.  $f(x) = -\frac{3}{2}x(x+3)(x-2)$



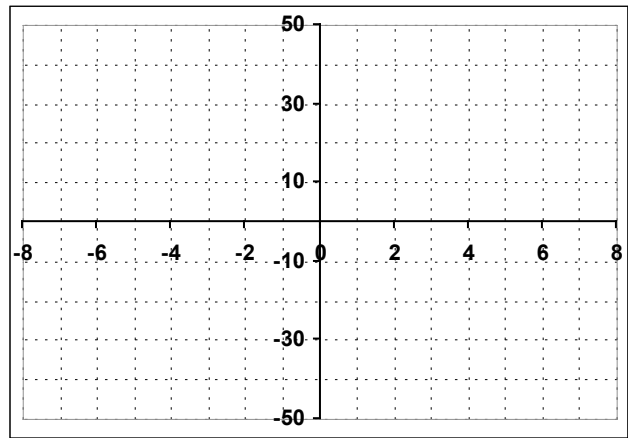
2.  $f(x) = 2(x-3)(x-2)^3(x+1)^2$



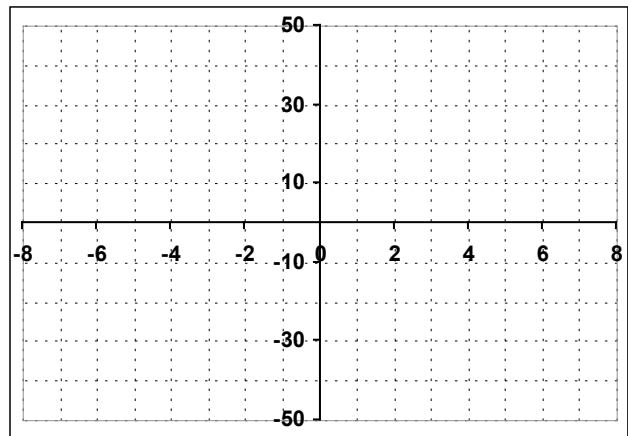
3.  $f(x) = -x(x-4)(x+3)(x-2)$



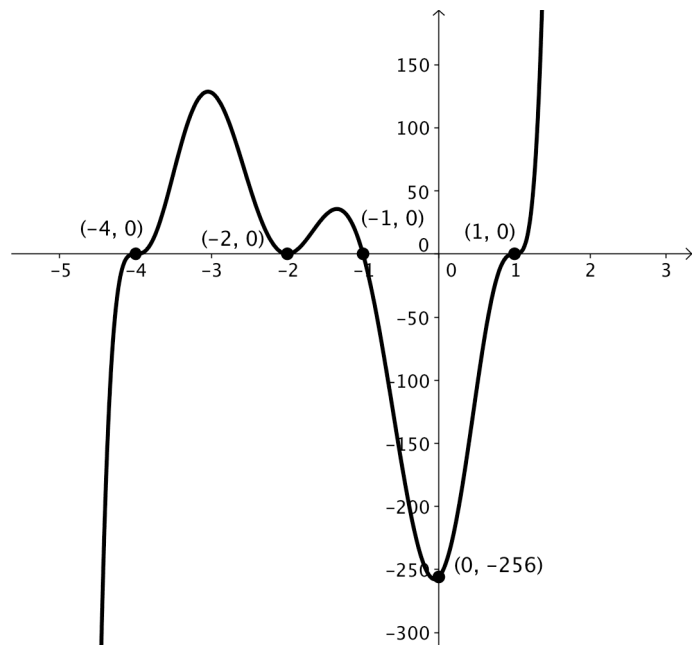
4.  $g(x) = -x(x + \frac{5}{2})(x - \frac{3}{2})$



5.  $h(x) = (x - 1)^3(x + 3)^3(x + 1)$



6. What polynomial function does this graph represent? Assume flexes are cubic (multiplicity 3) and bounces are quadratic (multiplicity 2). The zeros and y-intercept are labeled.



Answer:  $(x - 1)^3(x + 4)^3(x + 2)^2(x + 1)$