

**Pre-Calculus**  
**Graphing Polynomials**

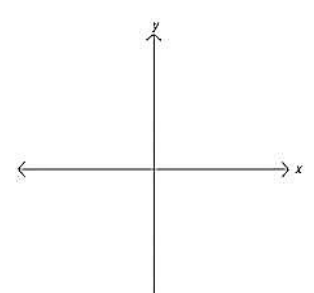
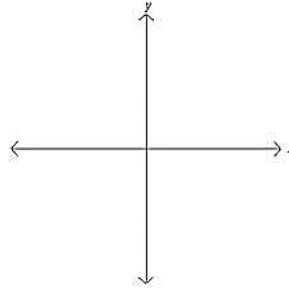
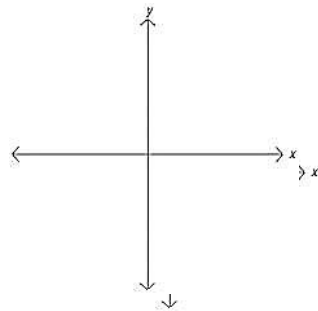
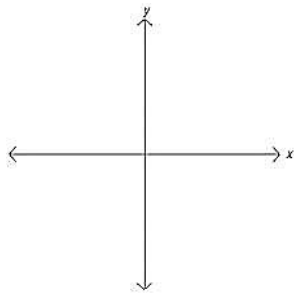
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Write a polynomial function with the given zeros.

1. 5, -1, 3                      2. 2, 3, -1, -3                      3. 0, -8, 2                      4. -10, 0, 2, 3, -6

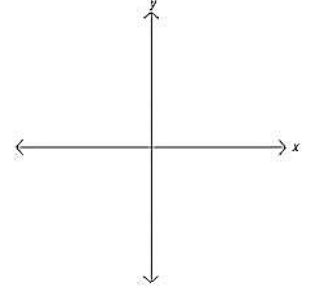
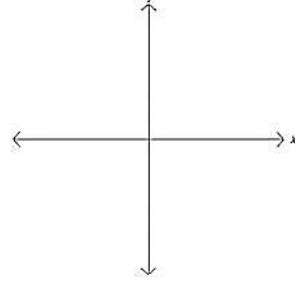
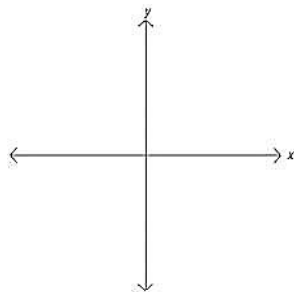
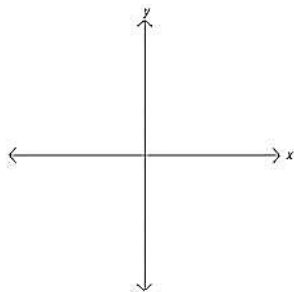
For each polynomial function, find the end behavior, leading coefficient, roots, and sketch the graph.

5.  $y = x(x+6)(x-2)$       6.  $y = 2x(x+2)(x-10)$       7.  $y = -2(x-1)(x+1)(x-4)(x+4)$       8.  $y = 3x(x+4)(2x-3)$



For each polynomial function, find the end behavior, leading coefficient, roots (with multiplicity), and sketch the graph.

9.  $y = (x+6)^2(x+7)$       12.  $y = (x+5)(x-2)(x+1)^2$       11.  $y = x(x-2)^2(x+3)^2$       12.  $y = (x-1)(x+4)^3$



Write a possible equation to represent the given graph.

