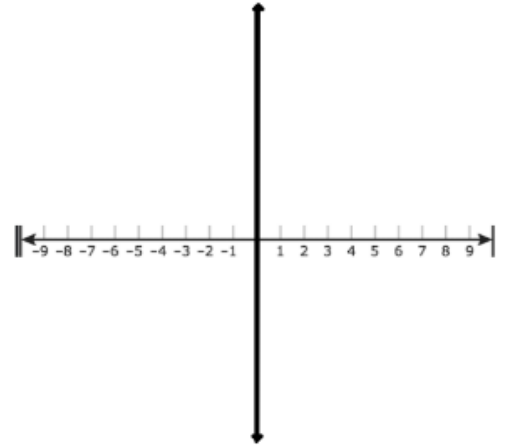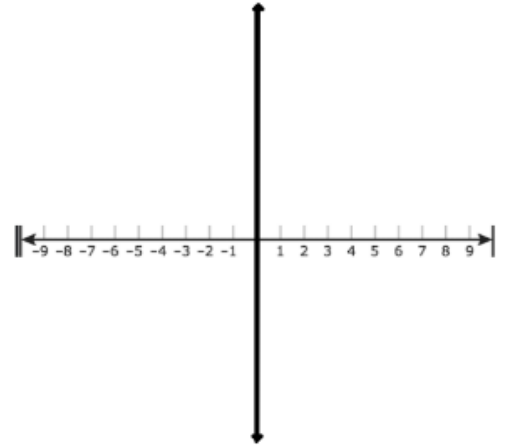Math 3

Name _____

Finding Zeros and Graphing Polynomials

Date _____ Per _____

Write the polynomial as a product of linear factors. A zero is provided. Find the y-intercept, end behaviors and sketch a graph.
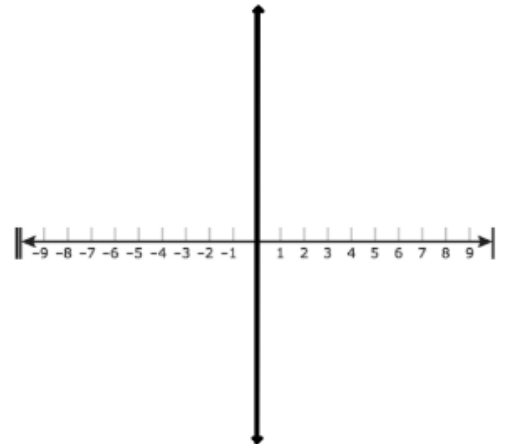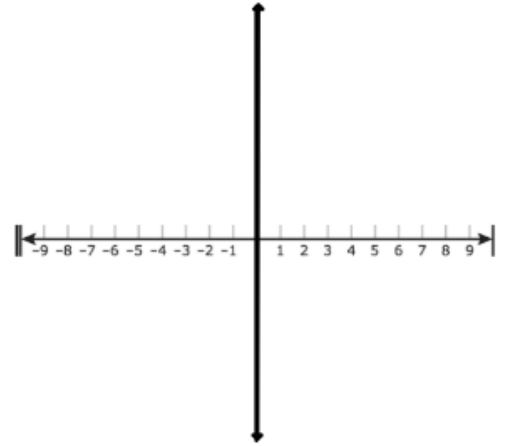
1. $f(x) = -x^3 + 3x^2 + 10x - 24; x = -3$
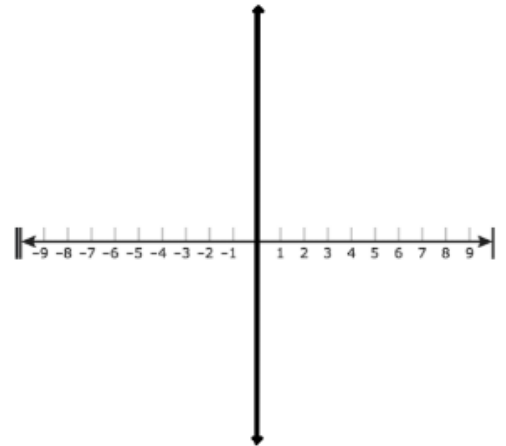
2. $g(x) = x^4 + 2x^3 - 13x^2 - 14x + 24; x = 1 \text{ and } 3$

3. $r(x) = 2x^4 - 17x^3 + 11x^2 + 165x - 225;$
$x = 5 \text{ is a double root}$

4. $h(x) = -x^4 - 13x^3 - 60x^2 - 112x - 64$;
$x = -4$ *has a multiplicity of* 3

5. $p(x) = x^4 - 29x^2 + 100$; $x^2 - 4$ *is a solution*

6. $f(x) = x^5 - 10x^4 - 20x^3 + 360x^2 - 3456$;
$x = 6$ *has a multiplicy of* 3