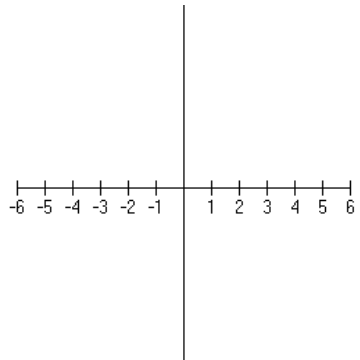
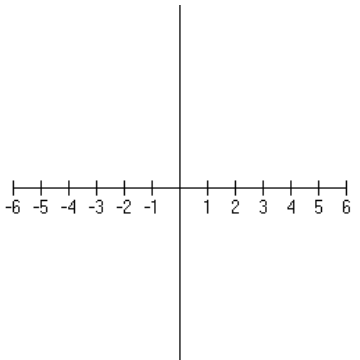
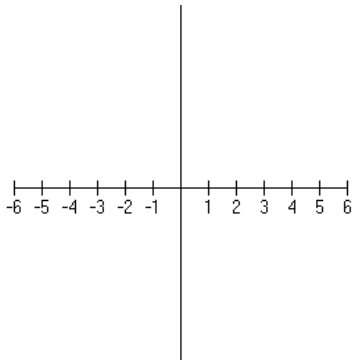


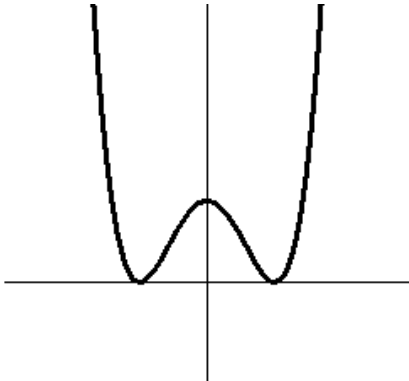

I. Find the requested information for each polynomial graph. All polynomials are in standard form.

<p>1. $P(x) = -4x^4 - 3x^3 + x^2 + 4$</p> <p>Leading Coefficient: _____</p> <p>Degree: _____ y-intercept: _____</p> <p>Total Number of Roots: _____</p> <p>End Behavior:</p> <p>$x \rightarrow -\infty, y \rightarrow$ _____</p> <p>$x \rightarrow +\infty, y \rightarrow$ _____</p>	<p>2. $P(x) = 2x^7 + 6x^5 - 2x^3$</p> <p>Leading Coefficient: _____</p> <p>Degree: _____ y-intercept: _____</p> <p>Total Number of Roots: _____</p> <p>End Behavior:</p> <p>$x \rightarrow -\infty, y \rightarrow$ _____</p> <p>$x \rightarrow +\infty, y \rightarrow$ _____</p>
<p>3. $P(x) = 5x^6 + 3x^5 + \dots + 4x - 9$</p> <p>Leading Coefficient: _____</p> <p>Degree: _____ y-intercept: _____</p> <p>Total Number of Roots: _____</p> <p>End Behavior:</p> <p>$x \rightarrow -\infty, y \rightarrow$ _____</p> <p>$x \rightarrow +\infty, y \rightarrow$ _____</p>	<p>4. $P(x) = -9x^5 + 4x + \dots + 2x + 4$</p> <p>Leading Coefficient: _____</p> <p>Degree: _____ y-intercept: _____</p> <p>Total Number of Roots: _____</p> <p>End Behavior:</p> <p>$x \rightarrow -\infty, y \rightarrow$ _____</p> <p>$x \rightarrow +\infty, y \rightarrow$ _____</p>

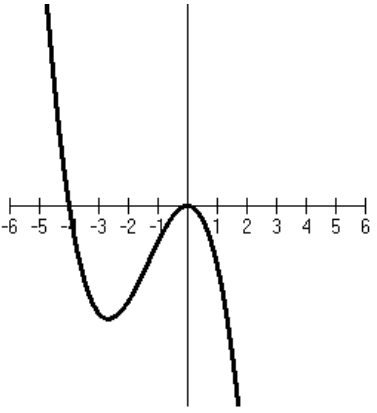
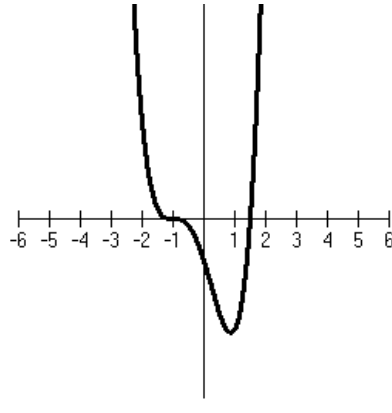
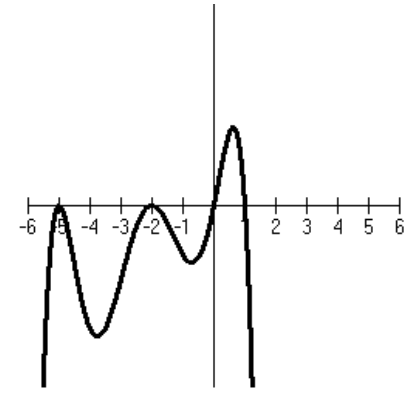
II. Sketch a graph of the function WITHOUT using the graphing calculator. Include real zeros on the graph and the end behavior. Also specify the degree of the polynomial.

<p>5.</p> <p>$P(x) = (x-2)^2(x+3)^3(x+1)$</p> 	<p>6. $P(x) = -x(2x+5)^2(x-2)$</p> 	<p>7.</p> <p>$P(x) = (2x+3)^3(x-5)(2x-7)$</p> 
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IV. Identify whether the following graphed functions have an odd or even degree and also whether they have a positive negative leading coefficient. Also, for the real roots, identify whether positive or negative and their multiplicity.

<p>8.</p>  <p>Odd or Even? _____</p> <p>+ or - Leading Coefficient? _____</p> <p>Real Roots? (+ or - AND multiplicity)</p>	<p>9.</p>  <p>Odd or Even? _____</p> <p>+ or - Leading Coefficient? _____</p> <p>Real Roots? (+ or - AND multiplicity)</p>
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III. Write a possible equation for a polynomial with the following sketch. Leave your equation in factored form.

<p>10.</p> 	<p>11.</p> 	<p>12.</p> 
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