1. Use this polynomial: $y = x^3 + x^2 - 5x + 1$

Graph this polynomial in a standard window to find the following, if any. Round to the nearest hundredth where necessary. Sketch the graph.

a. State Absolute Maximums and Minimums.   Sketch of Graph:

Max: Min:

b. State Relative Maximums and Minimums.

Max: Min:

c. State Zeros:

Zeros:

2. Use this polynomial: $y = x^4 + x^3 - 6x^2 + 9$

Graph this polynomial in a standard window to find the following, if any. Round to the nearest hundredth where necessary.

a. State Absolute Maximums and Minimums.   Sketch of Graph:

Max: Min:

b. State Relative Maximums and Minimums.

Max: Min:

c. State Zeros:

Zeros:

For the remaining problems find ALL zeros (real and imaginary) by factoring. Show your work below each problem.

3. $y = 8x^5 - 50x^3$ 4. $y = x^4 - x^2 - 72$ 5. $y = 3x^4 - 48$

Zeros =   Zeros=   Zeros=