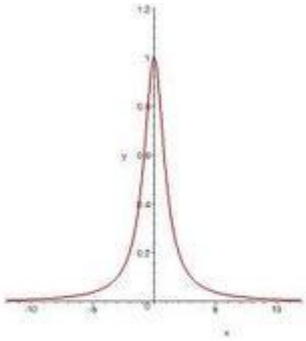
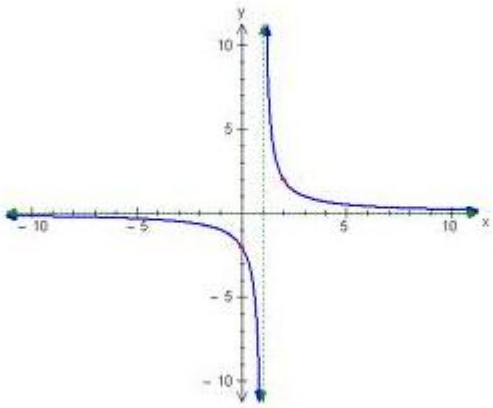
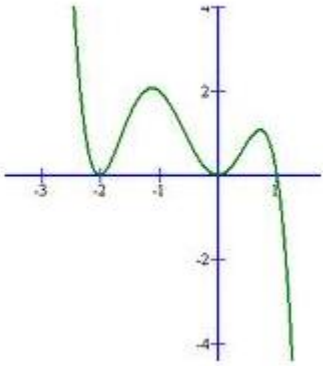
Graphs of Polynomials - Worksheet

NAME:
DATE:

1. Explain why each of the following graphs could or could not possibly be the graph of a polynomial function. If it is the graph of a polynomial, what can you say about the degree of the function?







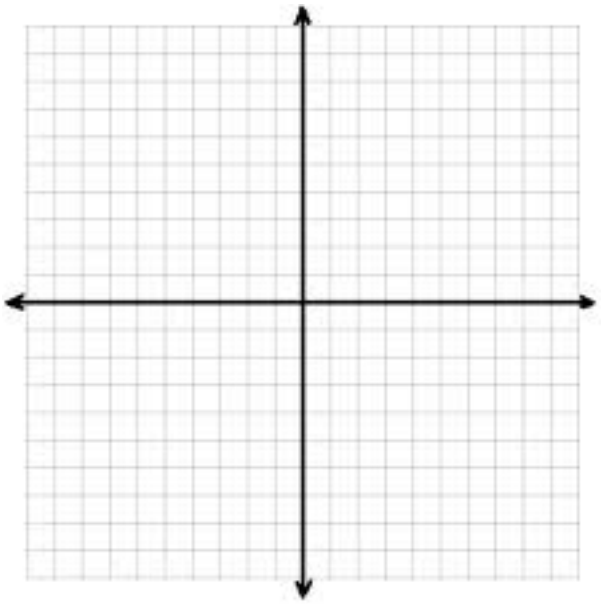
2. Graph $f(x) = 0.01x^4 + 0.1x^3 - 0.8x^2 - 0.7x + 9$ in a standard viewing window and explain why the graph you see cannot possibly be complete. Can you find a window which does show a complete graph?

WINDOW:
$X_{\min} =$

$X_{\max} =$

$Y_{\min} =$

$Y_{\max} =$



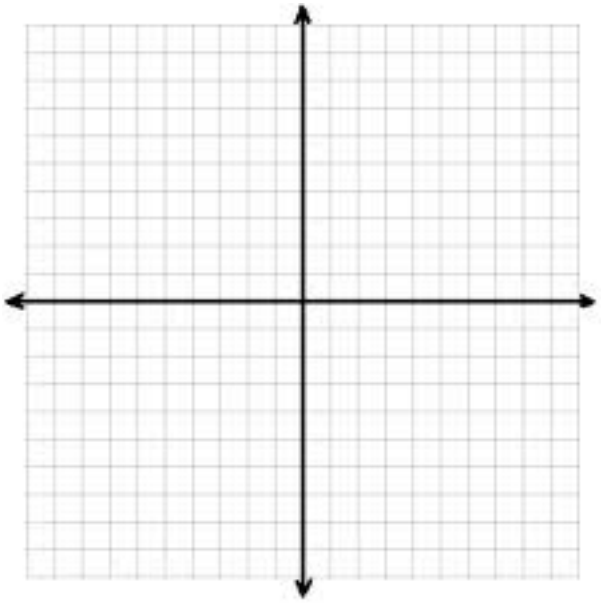
3. Determine a viewing window that shows the complete graph of $f(x) = 10x^3 - 12x^2 + 2x$. Sketch your graph.

WINDOW:
$X_{min} =$

$X_{max} =$

$Y_{min} =$

$Y_{max} =$



4. Sketch a complete graph of $f(x) = x^5 - 3x^3 + x$. Label each x-intercept and the coordinates of the local maximum and minimums. Find the intercepts and coordinates (approximate if necessary).

WINDOW:
$X_{\text{min}} =$

$X_{\text{max}} =$

$Y_{\text{min}} =$

$Y_{\text{max}} =$