Math 041 Assignment 2.2   Name_____
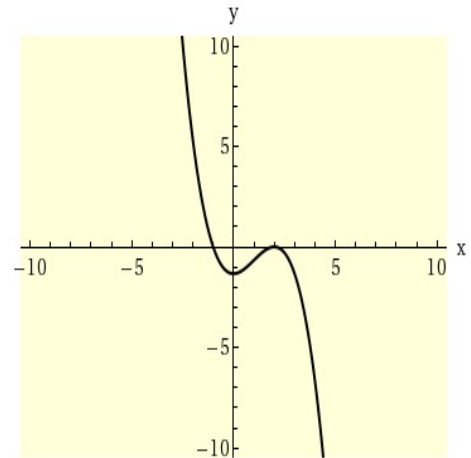
  Write complete solutions to the given problems. Be sure to provide all the necessary steps to support your answers.

1.   Write an equation for the third degree polynomial shown in the graph given that $f(0) = -34$.
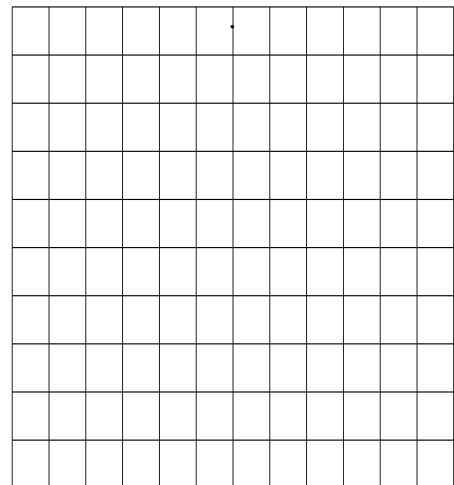

2.   Consider the polynomial $p(x) = 4x^2(x^2 + x - 6)$

a.   Find all zeros of P and determine the multiplicity of each
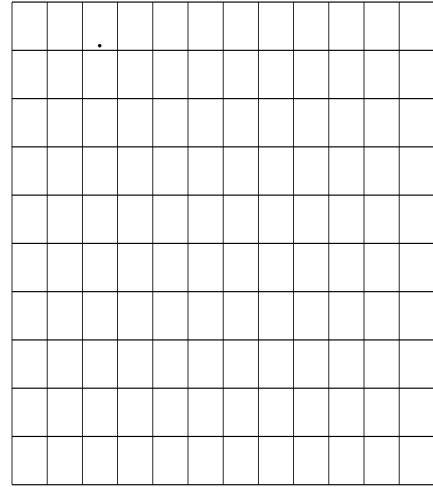
b.   Describe the end behavior of the graph of P

c.   Sketch the graph of P

3.   Find a polynomial function that has the given zeros and whose graph passes through the point

Zeros: $3, -2, 4$ point $(0,3)$

4. Sketch the graph of $p(x) = x^4 - 2x^2 + 1$

Be sure to find all zeros of P, determine the multiplicity of each and the end behavior of the graph before sketching.

5. An open box with locking tabs is to be made from a square piece of material 24 inches on a side. This is to be done by cutting equal squares from the corners and folding along the dashed lines shown in the figure.
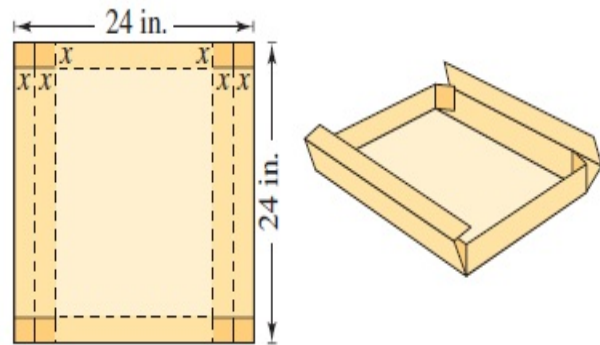
a. Write a function $v(x)$ that represents the volume of the box.

b. Give the domain of the function v

c. Use a graphing utility to find the dimension of the box that has the largest volume.