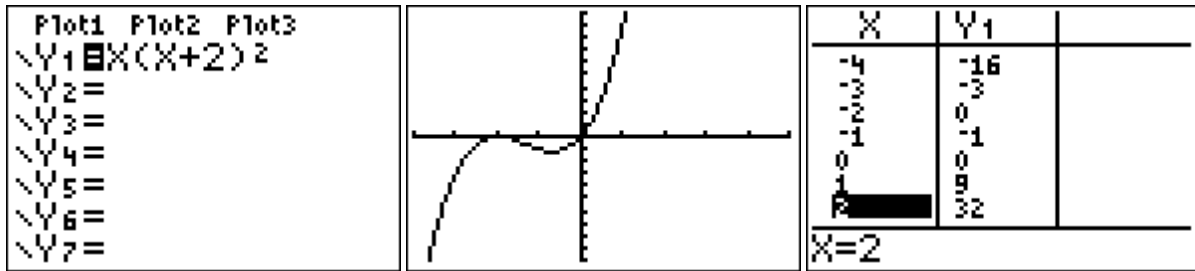


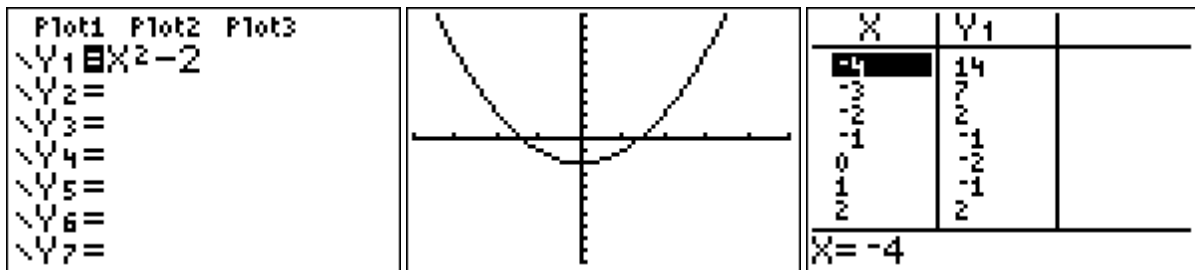
Graphing Polynomial Functions-zeros and end-behavior

1) $f(x) = x(x+2)^2$ or $f(x) = x^3 + 4x^2 + 4x$



Where are the x and y-intercepts? What is the end-behavior? The figure cuts through the x-axis at one zero and bounces off the x-axis for other one. Why?

2) $f(x) = x^2 - 2$

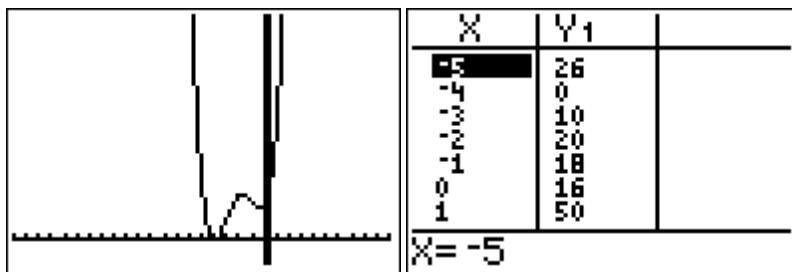


The zeros are located at $x^2 - 2 = 0$ or $x = \pm\sqrt{2}$

3) $f(x) = (x+4)^2(x^2+1)$



need to readjust window settings



Notice the bounce off of the zero at $x = -4$ (caused by the 2nd power) and the bounce in midair caused by the imaginary zeros from the (x^2+1) term