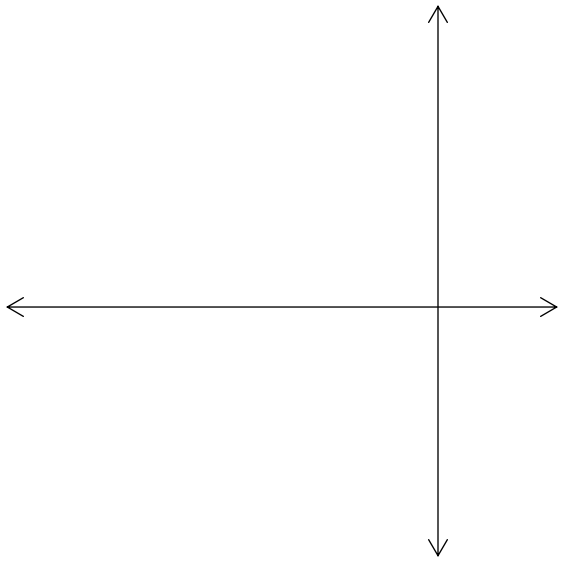
6.12 Piecewise and Even/Odd Name _____

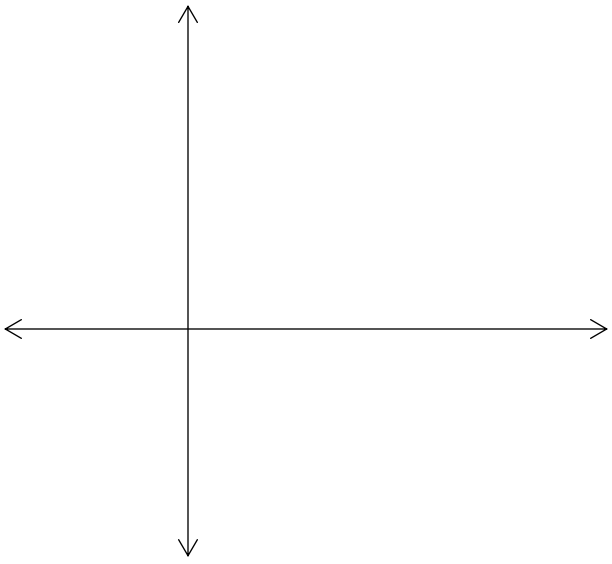
The goal of this assignment is to help you look forward to limits, a very important concept for us and for calculus next year. Do your best.

1. Graph the following functions in the coordinate planes provided:

$$f(x) = \begin{cases} (x+3)^2 - 2\ , & -3 < x < -1 \\ 4\ , & x = -1 \\ (x-1)^2 - 2\ , & -1 < x < 1 \end{cases}$$



$$f(x) = \begin{cases} x - 3\ , & -\infty < x < 4 \\ 0\ , & x = 4 \\ -\frac{1}{2}x + 3\ , & 4 < x < \infty^2 \end{cases}$$



2. Evaluate whether each function below is even, odd or neither algebraically.

$f(x) = 4$ $g(x) = x^2 - 5$ $h(x) = x^3 + 2x$

$r(x) = 2x^4 - 3x$ $t(x) = 2x^6 - 9x^4 + 10x^2$ $u(x) = 2x^3 - 3x^2$

Can you see the pattern in the exponents? There is one. What is it?