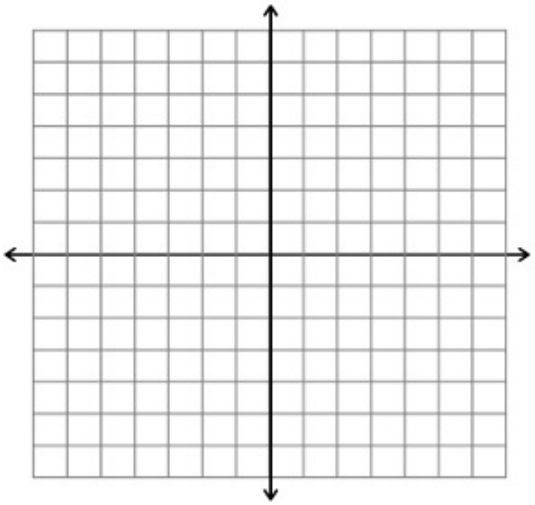
PRECALC AB PERIOD: _____ NAME:_____

Worksheet 61 - Rational Functions

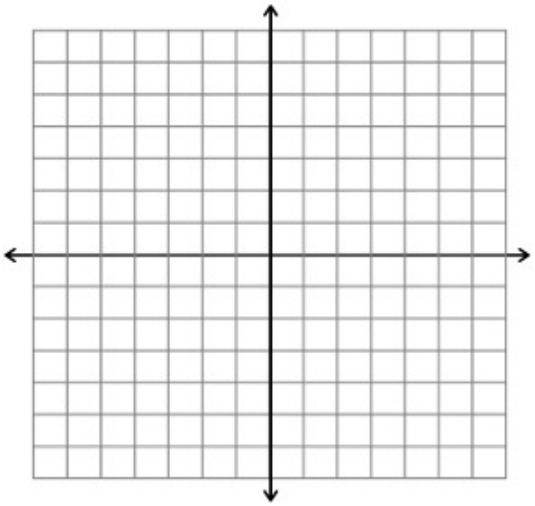
For each rational function given below, do the following:

(a) Identify any holes, zeros and vertical asymptotes.
(b) Indentify the horizontal or slant asymptote or give the end behavior.
(c) Find the y-intercept.
(d) Give a sign chart.
(e) Sketch the graph clearly showing the end-behavior, zeros, and y-intercept.

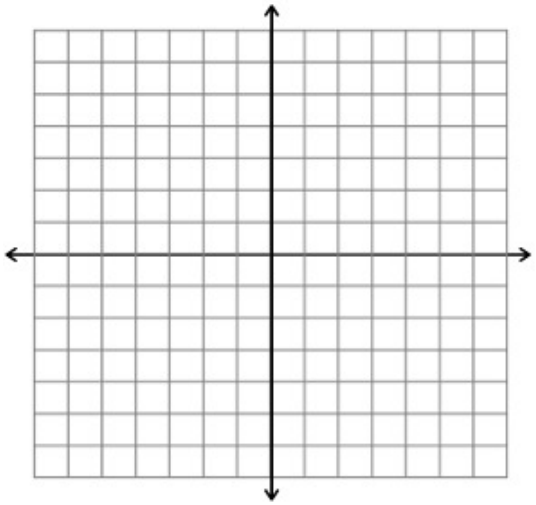
1. $f(x) = \dfrac{-(x+1)^2(x-1)^3}{(5-x)(x-1)^2}$



2. $f(x) = \dfrac{-(x+1)^2(x-1)^2}{(5-x)(x-1)^4}$



3. $f(x) = \dfrac{-(x+5)(4-2x)(6+3x)(x+1)^2}{(5-x)(x-1)^2}$



4. $f(x) = \dfrac{-(x+5)(4-2x)(6+3x)(x+1)^2}{(5-x)(x-1)^2(x+2)^2}$