4.3b Worksheet and 4.4 HW due today

4.5 HW (7-12) & (21-26) due Monday 12/19

4.6 HW (finish pgs.30-31 and skip pgs.32-34) due Monday 12/19

Questions on 4.6 HW?

Dec 14-1:54 PM

30 / 40 100%

1. $f(x) = \frac{(x+1)}{(x-2)(x+2)}$

x-intercept(s):

y-intercept:

Vertical aysmptote(s):

Proper or Improper:

End behavior asymptotes*:

Sketch the features on the graph below:

2. $f(x) = \frac{x+4}{(x+5)(x+1)}$

x-intercept(s):

y-intercept:

Vertical aysmptote(s):

Proper or Improper:

End behavior asymptotes*:

Sketch the features on the graph below:

3. $f(x) = \frac{(x+3)(x+2)}{(x+5)}$

x-intercept(s): (-3,0),(-2,0)

y-intercept: $\frac{3\cdot 2}{5} = 6/5$

Vertical aysmptote(s): x = -5

Proper or Improper:

End behavior asymptotes*: slant asy: y = x

Sketch the features on the graph below:

8.50 x 11.00 in

$\frac{d2}{d1}\ \frac{x^2+5x+6}{x+5}$

-12 2

-6 -4 -2.5 3

-5 -3 -2

$\frac{-3\cdot -4}{-1}$ $\frac{-1\cdot -2}{1}$ $\frac{0.5(-0.5)}{2.5}$

$\frac{(x+3)(x+2)}{(x+5)}$

x slant asy.

$x+5\overline{)\ x^2+5x+6}$

$-(x^2+5x)$

$+6$

Dec 15-9:53 AM

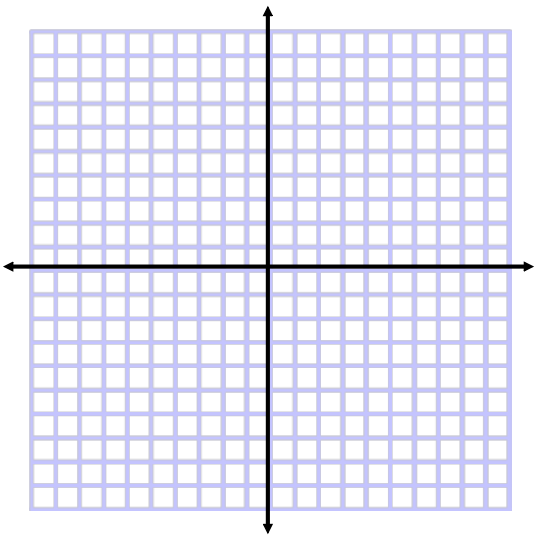
4.7 Graphing Rational Functions

A Practice Understanding Task

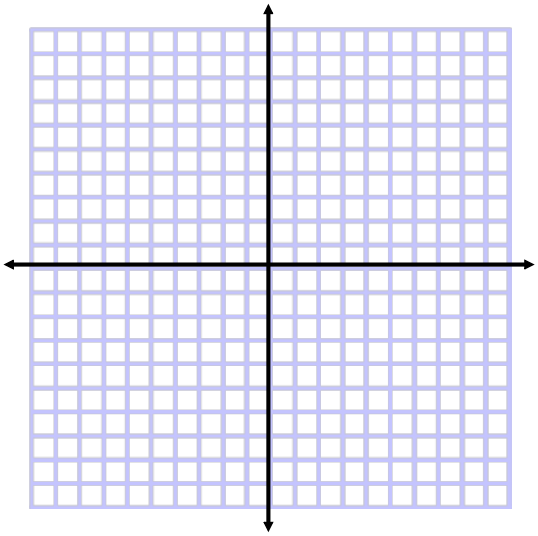
Part I: Seeing Structure

For each function, determine intercepts, domain, asymptotes, and complete a sign line. Use this information to sketch the graph.

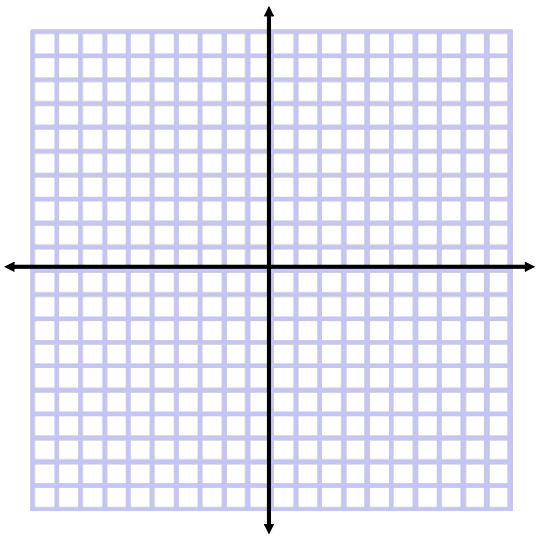
1. $f(x) = \frac{x^2+1}{x(x-2)}$



2. $f(x) = \frac{2x}{(x-1)^2(x+2)}$

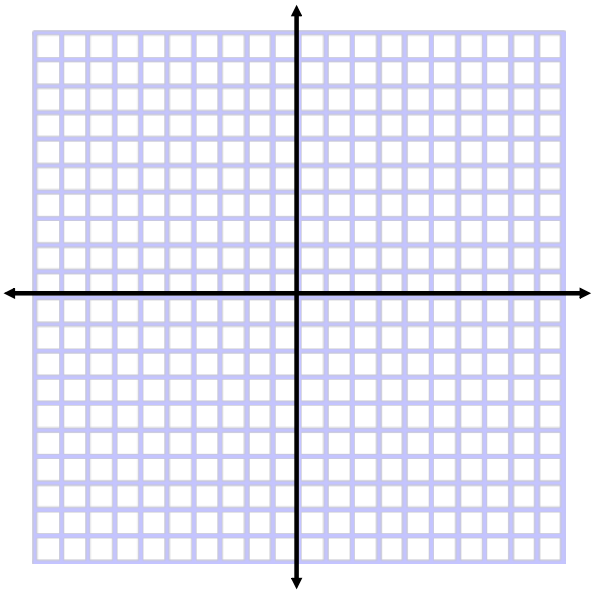


3. $f(x) = \frac{(x+1)(x-2)}{(x+3)^2(x-1)}$

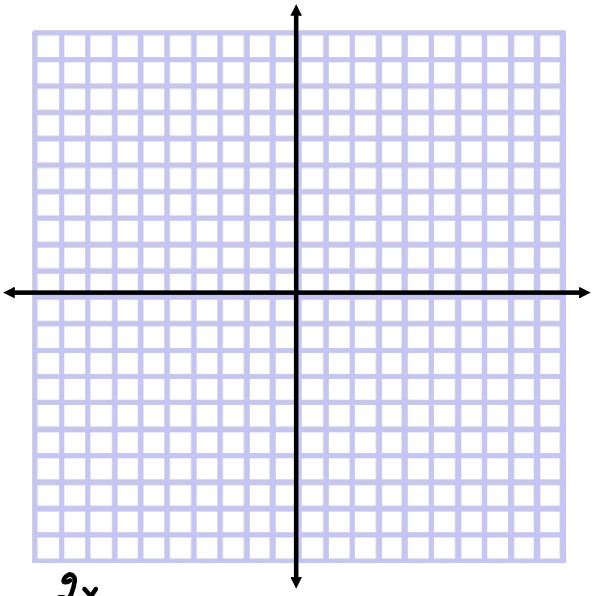


Feb 19-7:46 AM

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



5. $f(x) = \frac{3x^2}{x^2-9}$



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

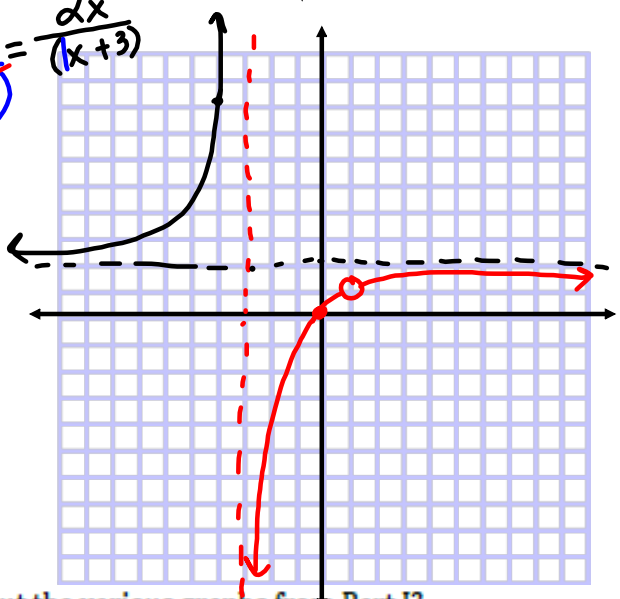
excluded values:
$x = -3, 1$

hole at $x = 1$

vertical asy: $x = -3$

horizontal asy: $y = \frac{2}{1}$

x-int: $(0,0)$

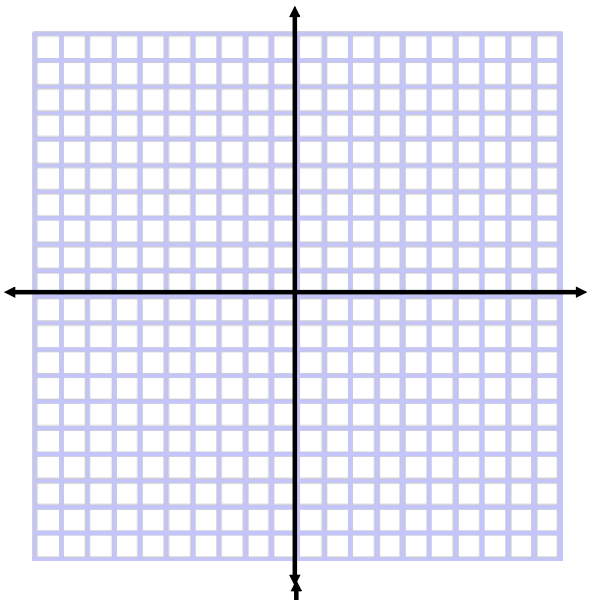


7. What observations do you notice about the various graphs from Part I?

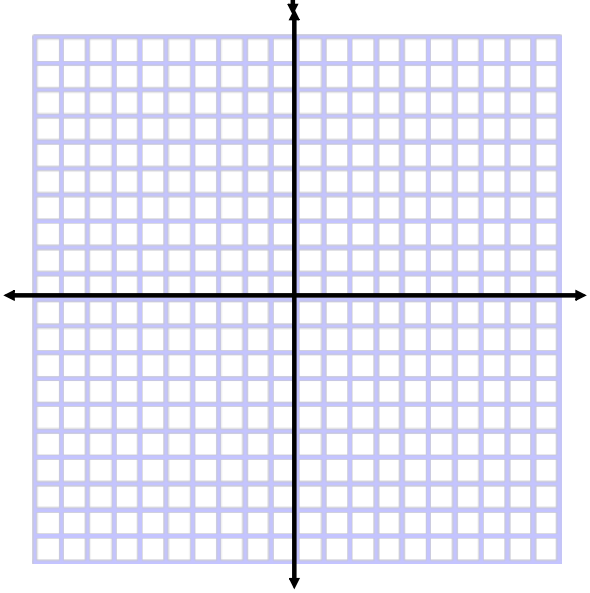
Part II: Seeing More Structure

8. Determine the features and then sketch the graphs of the functions.

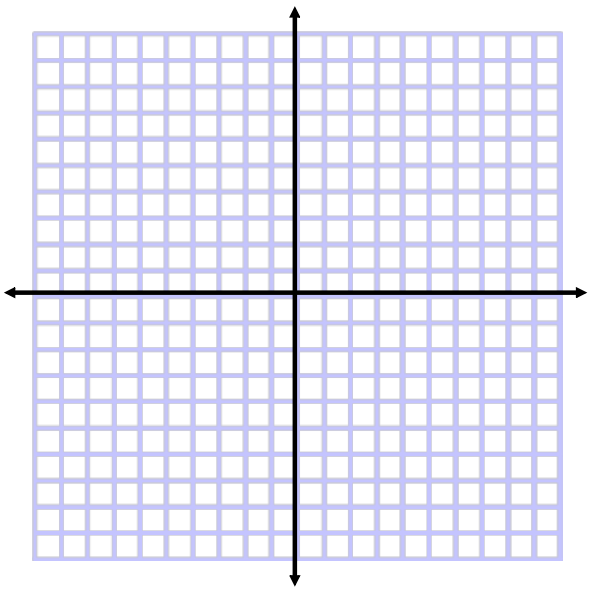
a. $f(x) = \frac{x}{x^2+1}$



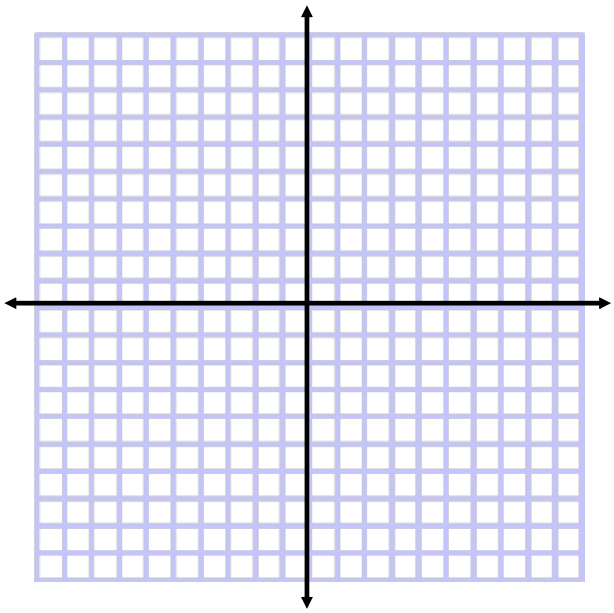
b. $f(x) = \frac{2x\,(x-1)(x+2)}{(x+4)}$



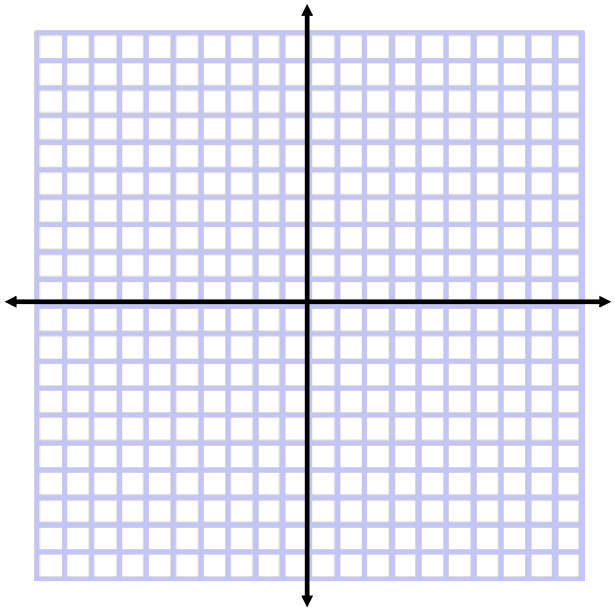
c. $f(x) = \frac{(2x-1)(x+2)}{(x+3)(x-1)}$



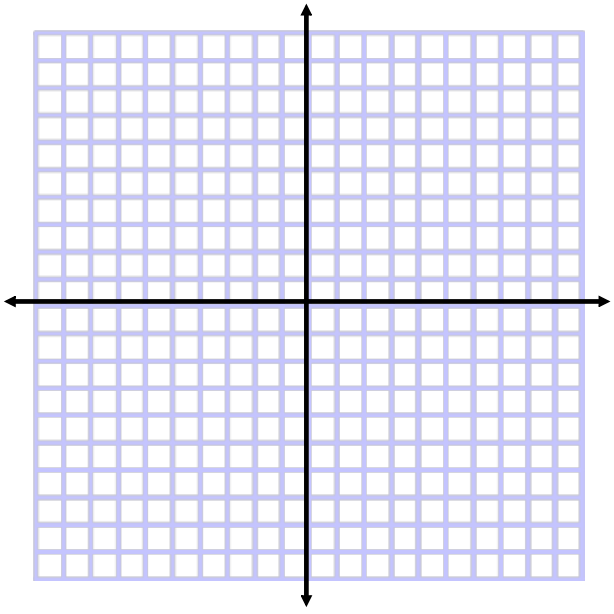
d. $f(x) = \frac{3x(x+2)}{(x+3)(x-1)}$



e. $f(x) = \frac{(x-1)^2(x+2)}{(x+1)^2}$



f. $f(x) = \frac{2x}{(x-1)^2}$



Feb 19-7:54 AM

Homework/Classwork

-Finish 4.7 "Ready, Set, Go"

Oct 21-8:47 AM