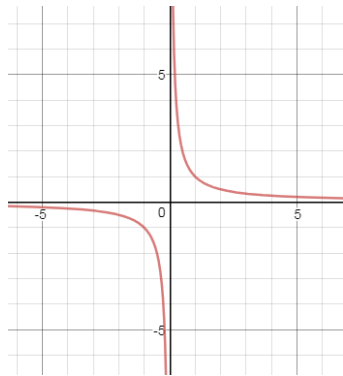


Unit 3---LESSON 6-Graphing Rational Equations

A relationship that can be written in the form _____, when k is a nonzero constant and _____, is an inverse variation. Inverse variation implies that one quantity will increase while the other quantity will decrease (the inverse, or opposite of increase)



Domain: _____

Range: _____

Translation of Inverse Variation:

The graph of $y = \frac{k}{x-b} + c$

**Translates _____ units horizontally and _____ units vertically

** The vertical asymptote is _____

** The horizontal asymptote is _____

** _____ tells how far the branches have been stretched from the _____

** _____ is the distance from the asymptote.

EXAMPLES:

1. $y = \frac{1}{x-3} + 4$

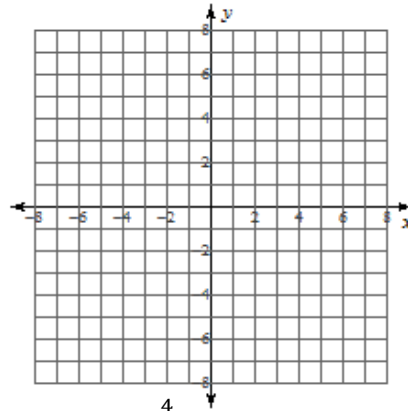
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



2. $y = -\frac{4}{x+1}$

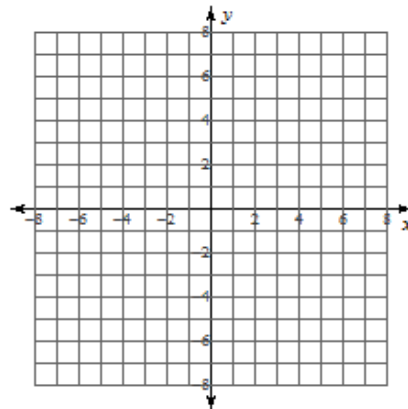
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



3. $y = \frac{x-1}{2x+6}$

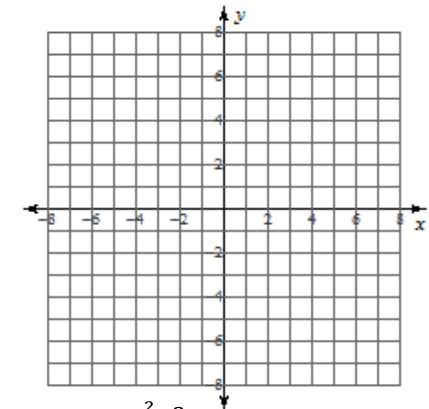
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



4. $y = \frac{x^2-3x}{3x-12}$

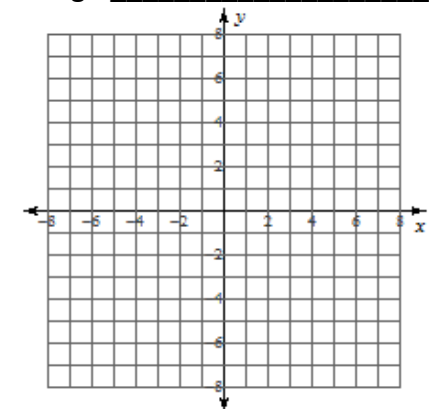
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



$$5. y = \frac{x^3 + x^2 - 12x}{4x^2 + 12x - 16}$$

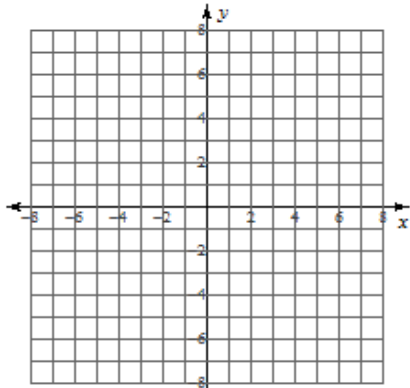
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



$$6. y = \frac{x^2 + 2x - 3}{x^2 - x}$$

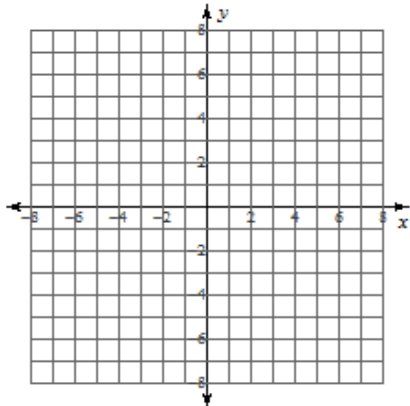
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



$$7. y = \frac{2}{x+2} - 3$$

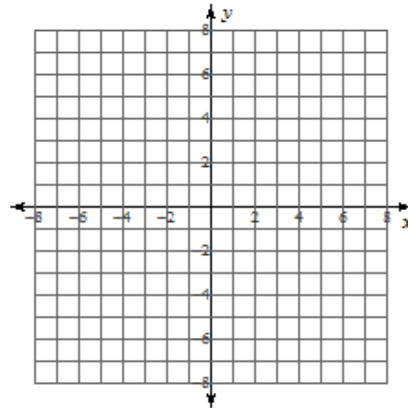
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



$$8. y = \frac{x^3 - 9x}{3x^2 - 6x - 9}$$

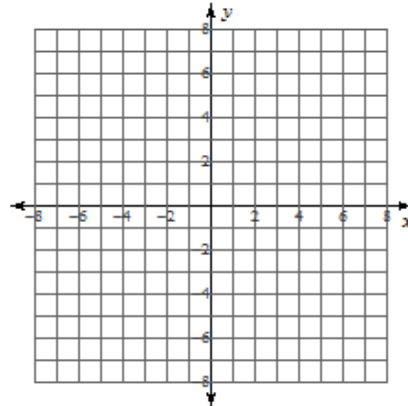
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



$$9. y = \frac{x^3 - 16x}{-4x^2 + 4x + 24}$$

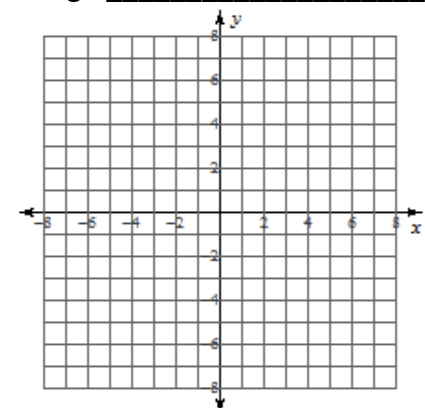
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



Unit 3---Lesson 6-CLASSWORK/HOMEWORK

1. $y = \frac{x+2}{2x+6}$

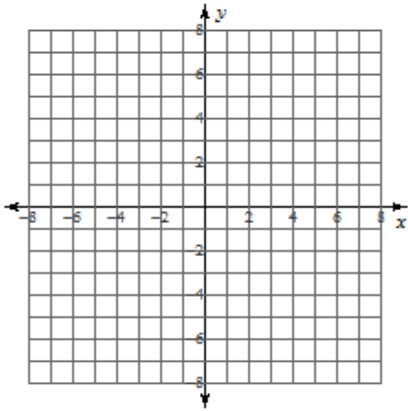
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



2. $y = \frac{2x^2+10x+12}{x^2+3x+2}$

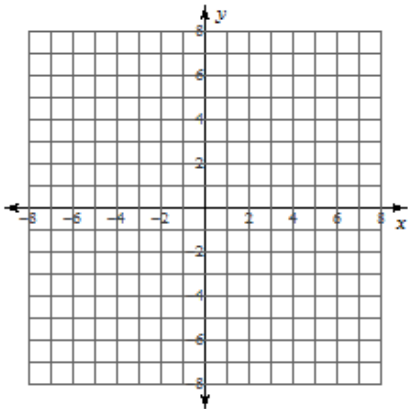
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



3. $y = \frac{x^2+2x}{-4x+8}$

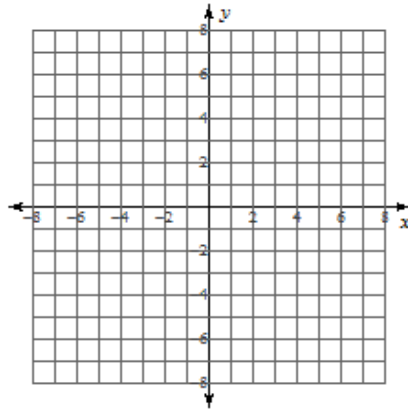
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



4. $y = \frac{x+4}{-2x-6}$

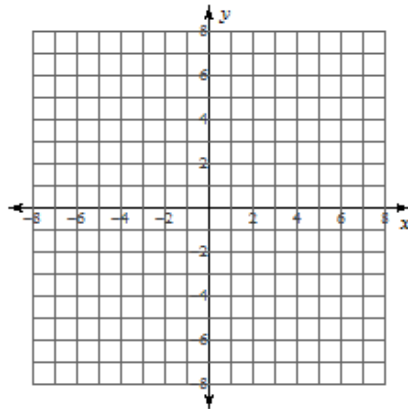
Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____



5. $y = \frac{1}{3x^2+3x-18}$

Vertical Asymptote: _____

Horizontal Asymptote: _____

Holes in the graph: _____

Domain: _____

Range: _____

