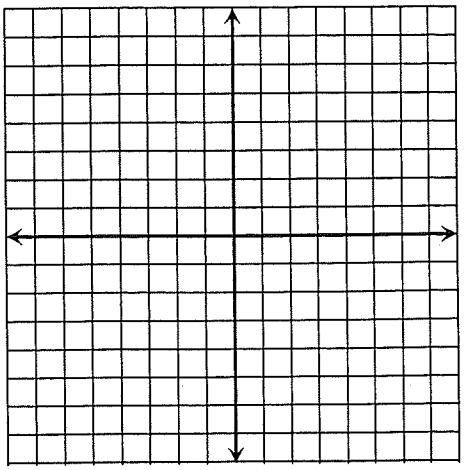
Algebra 2
Practice TEST 8.2-8.3

Name _____
Date _____ Hour _____

Sketch the asymptotes and the graph of each function. Identify the asymptotes, domain and range.

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

x	y



VA: _____

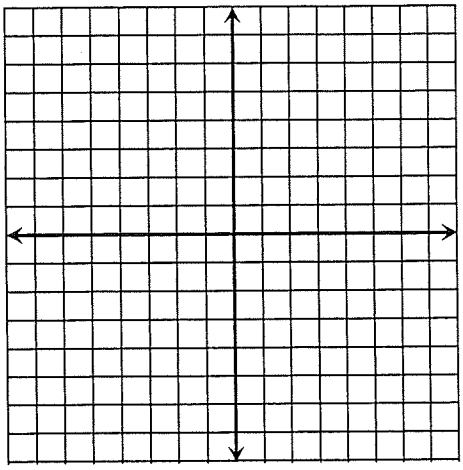
HA: _____

D: _____

R: _____

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

x	y



VA: _____

HA: _____

D: _____

R: _____

Write an equation for the translation of $y=\frac{1}{x}$ that has the given asymptotes and vertical stretch by 6.

3. $x=3$ and $y=-8$

3. _____

Write the equation in the form $y=\frac{a}{x}$.

4. $6xy-12=0$

4. _____

Find the domain of each rational function. Identify all asymptotes and holes in the graph of each rational function. You do not have to graph this!

5. $f(x)=\frac{4x+12}{x^2+2x-3}$

5. D: _____

VA : _____

HA : _____

Holes : _____

Find the domain of each rational function. Identify all asymptotes and holes in the graph of each rational function. You do not have to graph this one!

6. $g(x)=\dfrac{x^2-25}{x^2+8x+15}$

6. D: _____

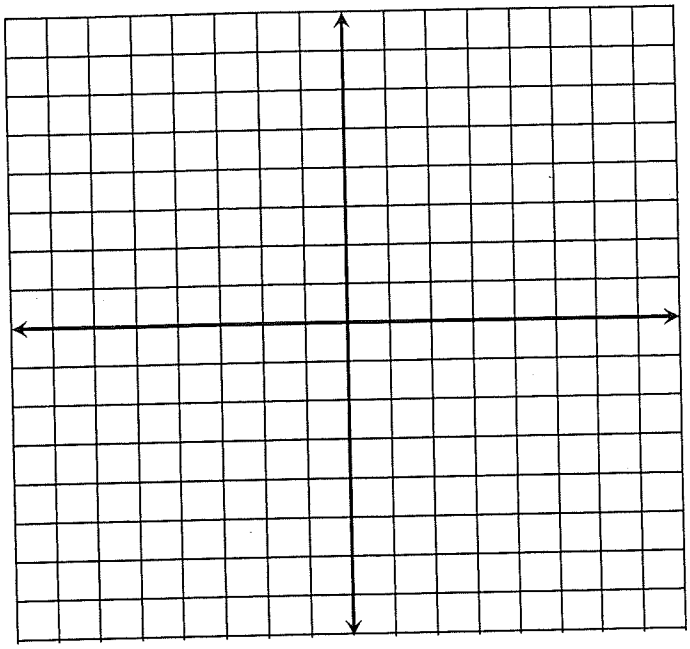
VA : _____

HA : _____

Holes : _____

7. Sketch the graph of the rational function. Identify all asymptotes and holes in the graph of the function.

Graph: $y=\dfrac{x^2-5x+6}{x^2-4x+3}$



CV : _____

Root(s): $x=$ _____

VA: _____

HA: _____

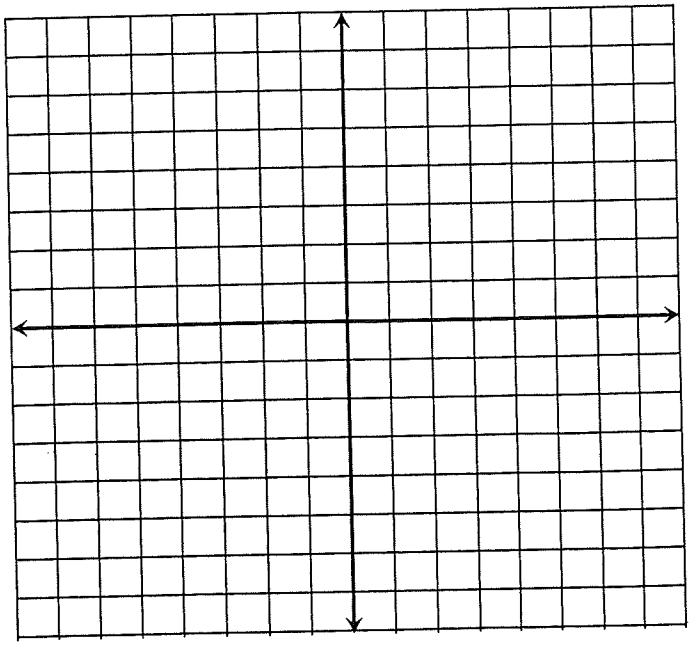
Hole = _____

y-int. = _____

Exclusion chart

8. Sketch the graph of the rational function. Identify all asymptotes and holes in the graph of the function.

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



CV : _____

Root(s): $x=$ _____

VA: _____

HA: _____

Hole = _____

y-int. = _____

Exclusion chart :

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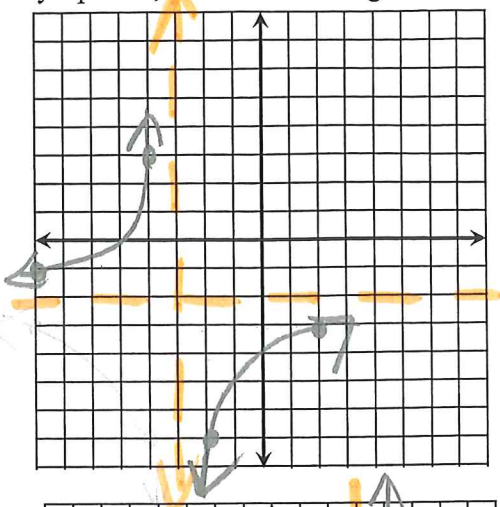
Name _____
Date _____ Hour _____

Sketch the asymptotes and the graph of each function. Identify the asymptotes, domain and range.

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

x	y

+6



VA: $x = -3$

HA: $y = -2$

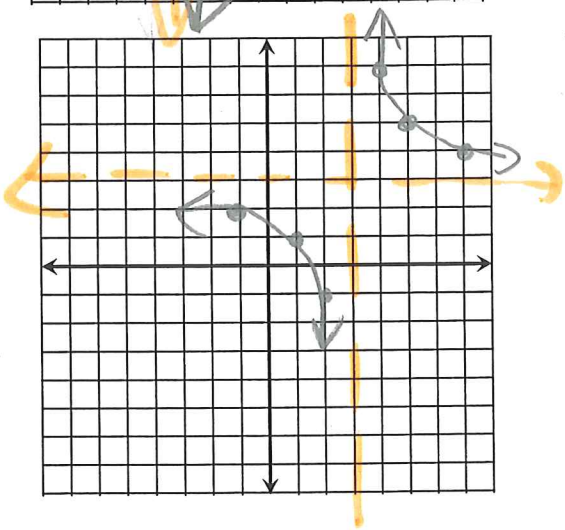
D: arn $x \neq -3$

R: arn $y \neq -2$

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

x	y

+6



VA: $x = 3$

HA: $y = 3$

D: arn $x \neq 3$

R: arn $y \neq 3$

Write an equation for the translation of $y = \frac{1}{x}$ that has the given asymptotes and vertical stretch by 6.

3. $x = 3$ and $y = -8$

+3

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

Write the equation in the form $y = \frac{a}{x}$.

4. $6xy - 12 = 0$

$\frac{6xy}{6} = \frac{12}{6}$

+3

4. $y = \frac{2}{x}$

Find the domain of each rational function. Identify all asymptotes and holes in the graph of each rational function. You do not have to graph this!

5. $f(x) = \frac{4x+12}{x^2+2x-3}$

$\frac{4(x+3)}{(x+3)(x-1)}$ $\frac{4}{x-1}$

+6

5. D: arn $x \neq -3, x \neq 1$

VA: $x = 1$

HA: $y = 0$

Holes: $(-3, -1)$

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Find the domain of each rational function. Identify all asymptotes and holes in the graph of each rational function. You do not have to graph this one!

6. $g(x)=\dfrac{x^2-25}{x^2+8x+15}$

$\dfrac{(x-5)(x+5)}{(x+3)(x+5)}$

$\dfrac{-5-5}{-5+3}=\dfrac{-10}{-2}$

6

6. D: all $x \neq -3, -5$

VA : $x=3$

HA : $y=1$

Holes : $(-5,5)$

7. Sketch the graph of the rational function. Identify all asymptotes and holes in the graph of the function.

Graph: $y=\dfrac{x^2-5x+6}{x^2-4x+3}$ $\dfrac{(x-3)(x-2)}{(x-3)(x-1)}$

CV : 2, 1

Root(s): $x =$ 2, 0

VA: $x=1$

HA: $y=1$

Hole = $(3, \frac{1}{2})$

y-int. = $(0, 2)$

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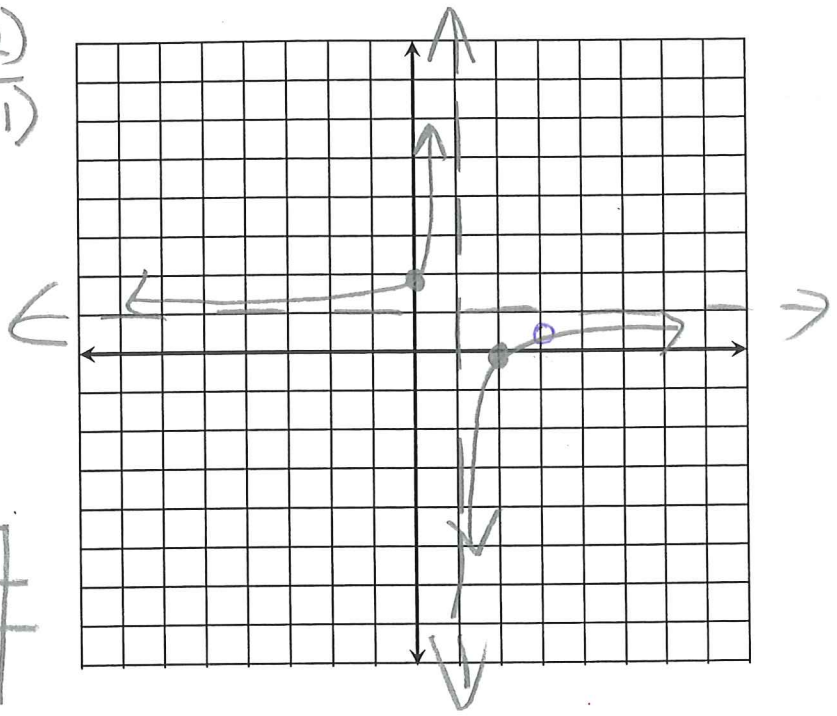
Exclusion chart

	1	2
$x-2$	−	− ○ +
$x-1$	−	+ +
$f(x)$	+	− +



8. Sketch the graph of the rational function. Identify all asymptotes and holes in the graph of the function.

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

CV : $-3, -5, 1$

Root(s): $x =$ $(-3, 0)$

VA: $x=-5$ $x=1$

HA: $y=0$

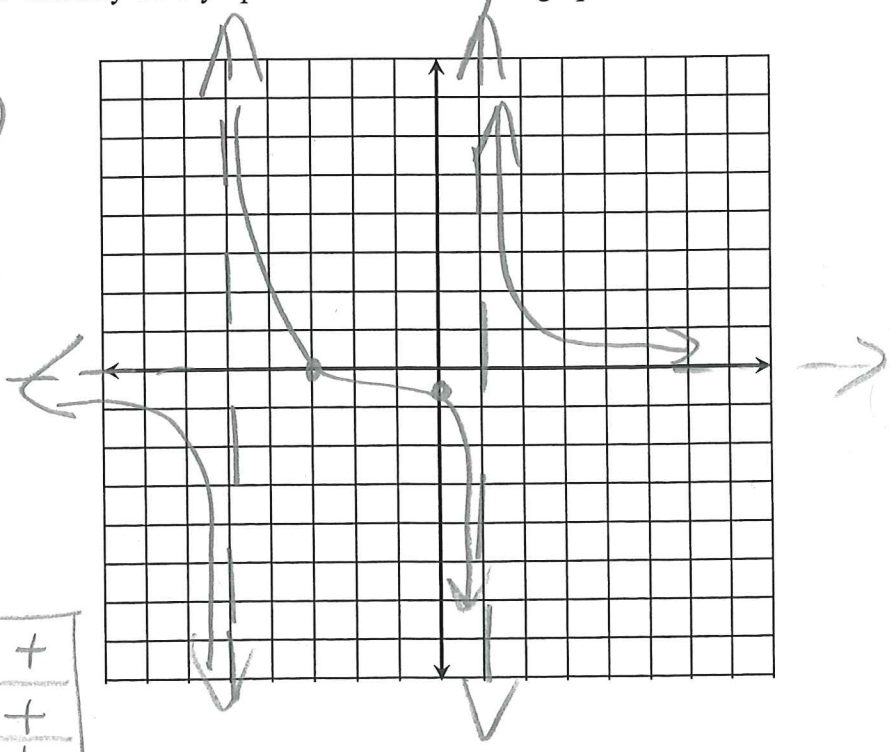
Hole = NONE

y-int. = $(0, -3/5)$

10

Exclusion chart :

	-5	-3	1
$x+3$	−	− ○ +	+
$x+5$	− ○	+ +	+
$x-1$	−	− − ○	+
$f(x)$	−	+ −	+



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