 Names_____

1. Determine the domain of the rational function: $f(x)=\dfrac{x^2+3x-4}{x^2-3x-10}$.

1._____

In 2-5, complete the information on the left side of the page. **If a blank is not needed, write "NA."** Create an exclusion chart, and then use all the information to create an accurate graph of the rational function. **Be sure asymptotes are written as equations and holes and y intercept are written as ordered pairs.**

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

CV : _____

Root(s): _____

VA: _____

HA: _____

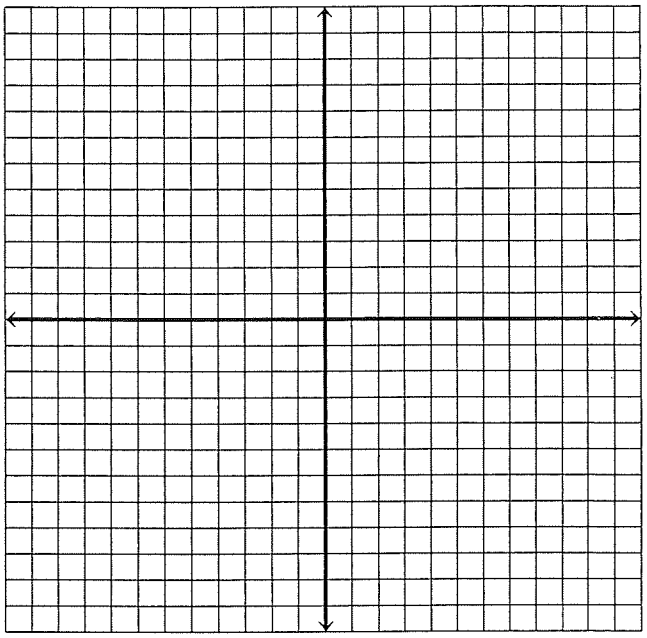
SA: _____

PA: _____

y-int. = _____

Hole = _____

Exclusion chart:



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

CV : _____

Root(s): _____

VA: _____

HA: _____

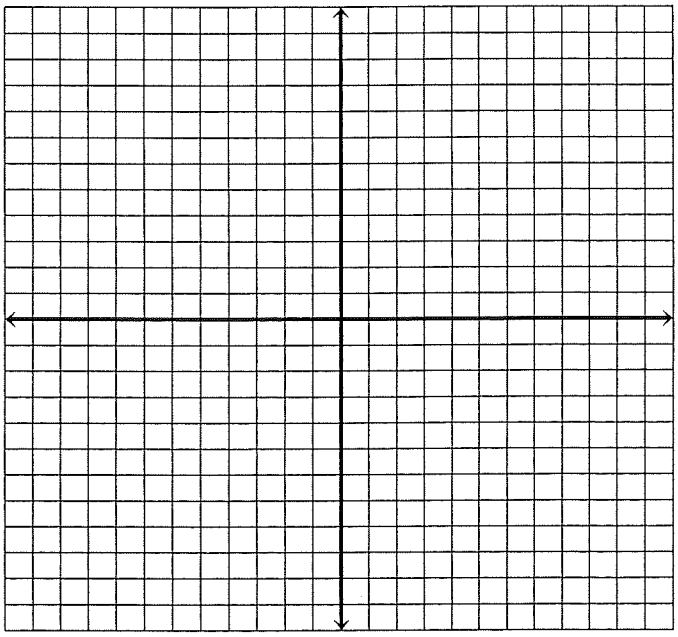
SA: _____

PA: _____

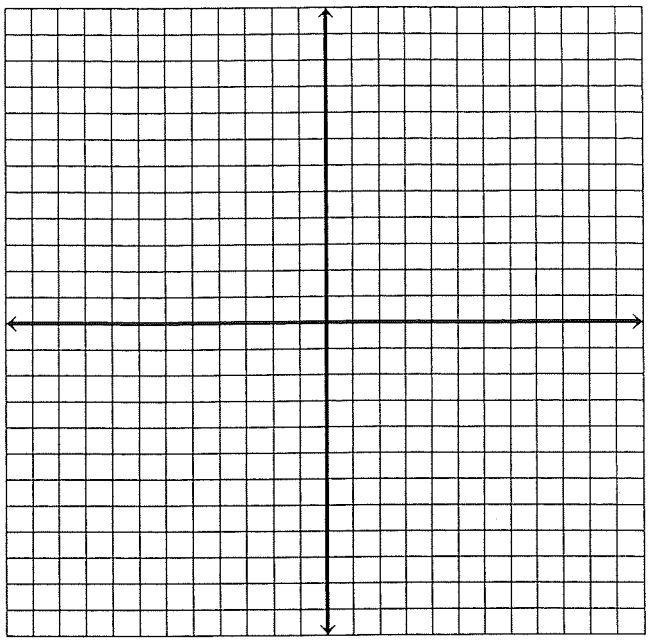
y-int. = _____

Hole = _____

Exclusion chart:



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



CV : _____

Root(s): _____

VA: _____

HA: _____

SA: _____

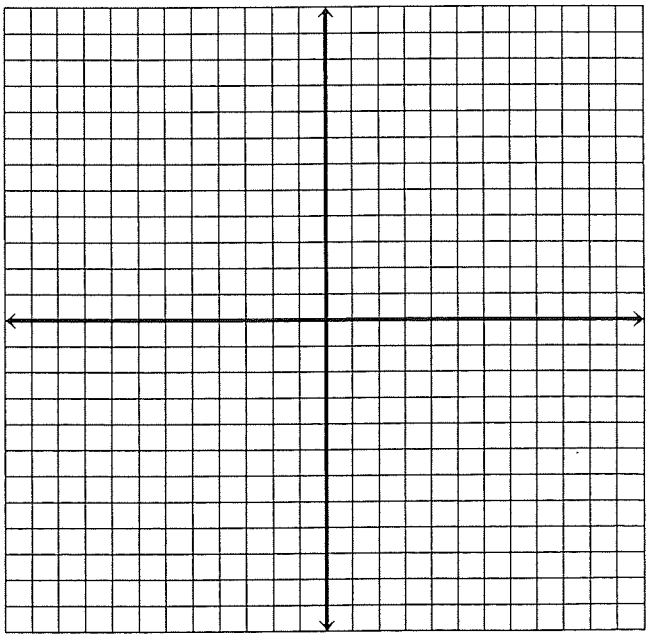
PA: _____

y-int. = _____

Hole = _____

Exclusion chart:

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



CV : _____

Root(s): _____

VA: _____

HA: _____

SA: _____

PA: _____

y-int. = _____

Hole = _____

Exclusion chart:

4.4 Partner Test 2014 Names_____

1. Determine the domain of the rational function: $f(x)=\dfrac{x^2+3x-4}{x^2-3x-10}$. $\dfrac{(x+4)(x-1)}{(x-5)(x+2)}$

1. all $x \neq 5, x \neq -2$

In 2-5, complete the information on the left side of the page. **If a blank is not needed, write "NA."** Create an exclusion chart, and then use all the information to create an accurate graph of the rational function. **Be sure asymptotes are written as equations and holes and y intercept are written as ordered pairs.**

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

CV: 3, -1, -2

Root(s): (3,0) (-1,0) top

VA: $x=-2$ bottom

HA: —

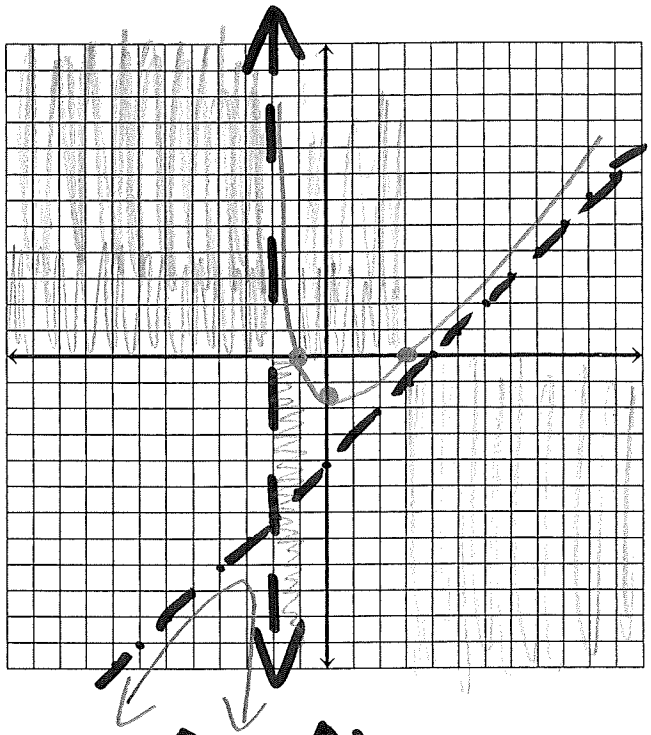
SA: $y=1x-4$

PA: —

y-int. = $(0, -1\frac{1}{2})$

Hole = —

$-2 \mid 1 \quad -2 \quad -3$
$\quad\quad -2$
$\quad 1 \quad -4$



Exclusion chart:

	-2		3	
$x-3$	−	−	−	+
$x+1$	−	−	+	+
$x+2$	−	+	+	+
$f(x)$	−	+	−	+

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

$= \dfrac{x+2}{x(x+5)(x-1)}$

CV: -2, 0, -5, 1

Root(s): (-2, 0)

VA: $x=0, x=-5, x=1$

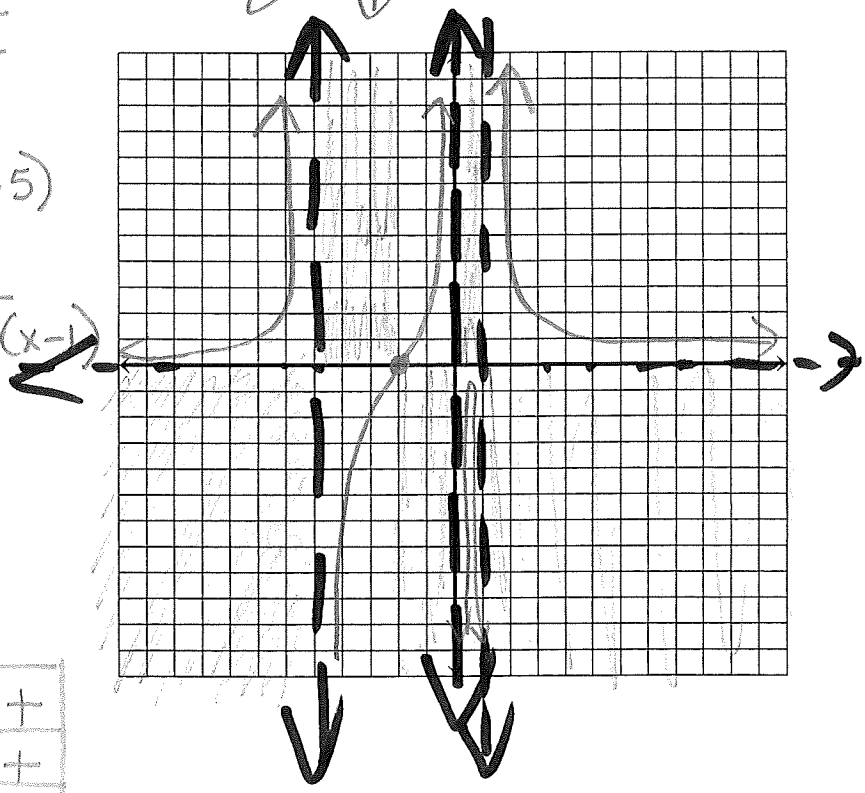
HA: $y=0$

SA: —

PA: —

y-int. = —

Hole = —



Exclusion chart:

	-5		-2		0		1	
$x+2$	−	−	−	+	+	+	+	+
x	−	−	−	−	−	+	+	+
$x+5$	−	+	+	+	+	+	+	+
$x-1$	−	−	−	−	−	−	−	+
$f(x)$	+	−	+	−	+			

4. Graph: $f(x)=\frac{x^2-5x-6}{x^2-1}=\frac{(x-6)(x+1)}{(x+1)(x-1)}$

$=\frac{x-6}{x-1}$

CV : 6, 1

Root(s): (6, 0)

VA: $x=1$

HA: $y=1$

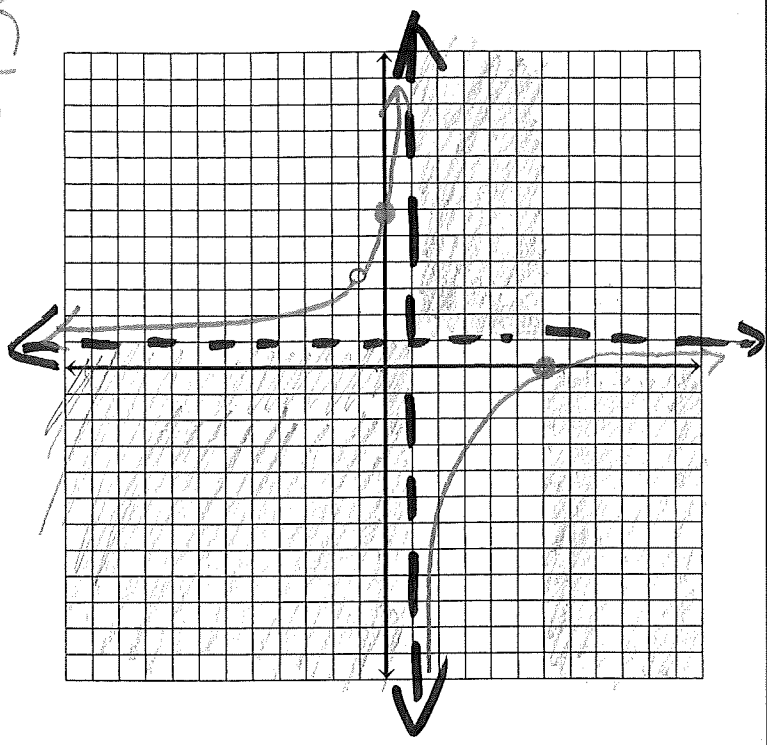
SA: —

PA: —

y-int. = (0, 6)

Hole = (−1, 3.5)

(−1, −7/2)



Exclusion chart:

		1		6	
$x-1$	−	0	+		+
$x-6$	−		−	0	+
$f(x)$	+	‖	−	‖	+

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

$\frac{x(x^2+2x-3)}{(x+2)}$

$\frac{x(x+3)(x-1)}{(x+2)}$

CV : 0, −3, 1, −2

Root(s): 0, −3, 1

VA: $x=-2$

HA: —

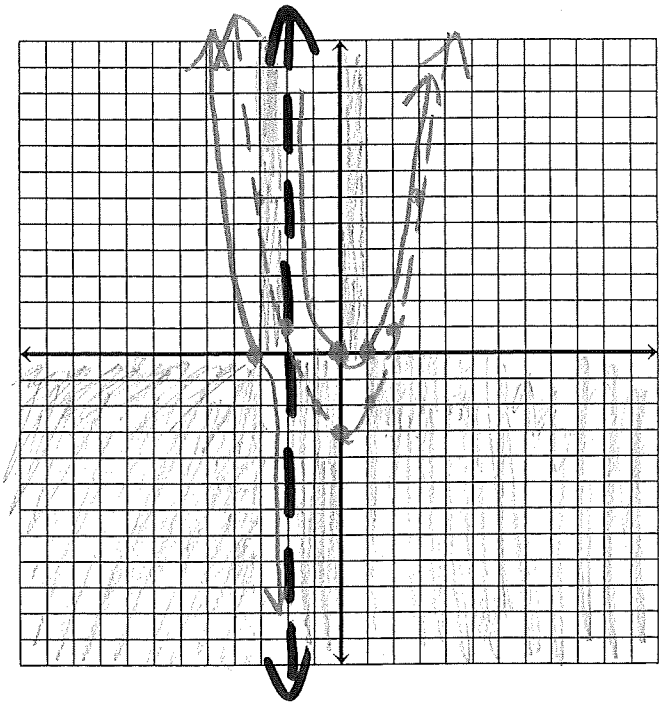
SA: —

PA: $y=x^2-3$

y-int. = (0, 0)

Hole = —

−2	1	2	−3	0
		−2	0	
	1	0	−3	



Exclusion chart:

		−3		−2		0		1	
x	−		−		−	0	+		+
$x+3$	−	0	+		+		+		+
$x-1$	−		−		−		−	0	+
$x+2$	−		−	0	+		+		+
$f(x)$	+	‖	−	‖	+	‖	−	‖	+

4.4 Partner Test names Key

1. Determine the domain of the rational function: $f(x)=\dfrac{x^2+3x-4}{x^2-3x-10}$. Write the domain in interval notation.

$\dfrac{(x+4)(x-1)}{(x-5)(x+2)}$ $x\neq 5,-2$ $(-\infty,-2)\cup(-2,5)\cup(5,\infty)$

1. all $x\neq -2,5$

In 2-5, complete the information on the left side of the page. **If a blank is not needed, write "NA."** Create an exclusion chart, and then use all the information to create an accurate graph of the rational function. **Be sure asymptotes are written as equations and holes and y intercept are written as ordered pairs.**

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

CV: $-2,-1,3$

Root(s): $-1,3$

VA: $x=-2$

HA: —

SA: $y=x-4$

PA: —

y-int. = $(0,-3/2)$

Hole = None

$-2\ |\ 1\ -2\ -3$
$\quad\quad -2\ \ 8$
$\quad\ 1\ -4\ \ 5$

Exclusion chart:

	-2	-1	3
$x+1$	−	−	+	+
$x-3$	−	−	−	+
$x+2$	−	+	+	+
$f(x)$	−	+	−	+

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

$\dfrac{x+2}{x(x+5)(x-1)}$

CV: $-5,-2,0,1$

Root(s): -2

VA: $x=0,-5,1$

HA: $y=0$

SA: —

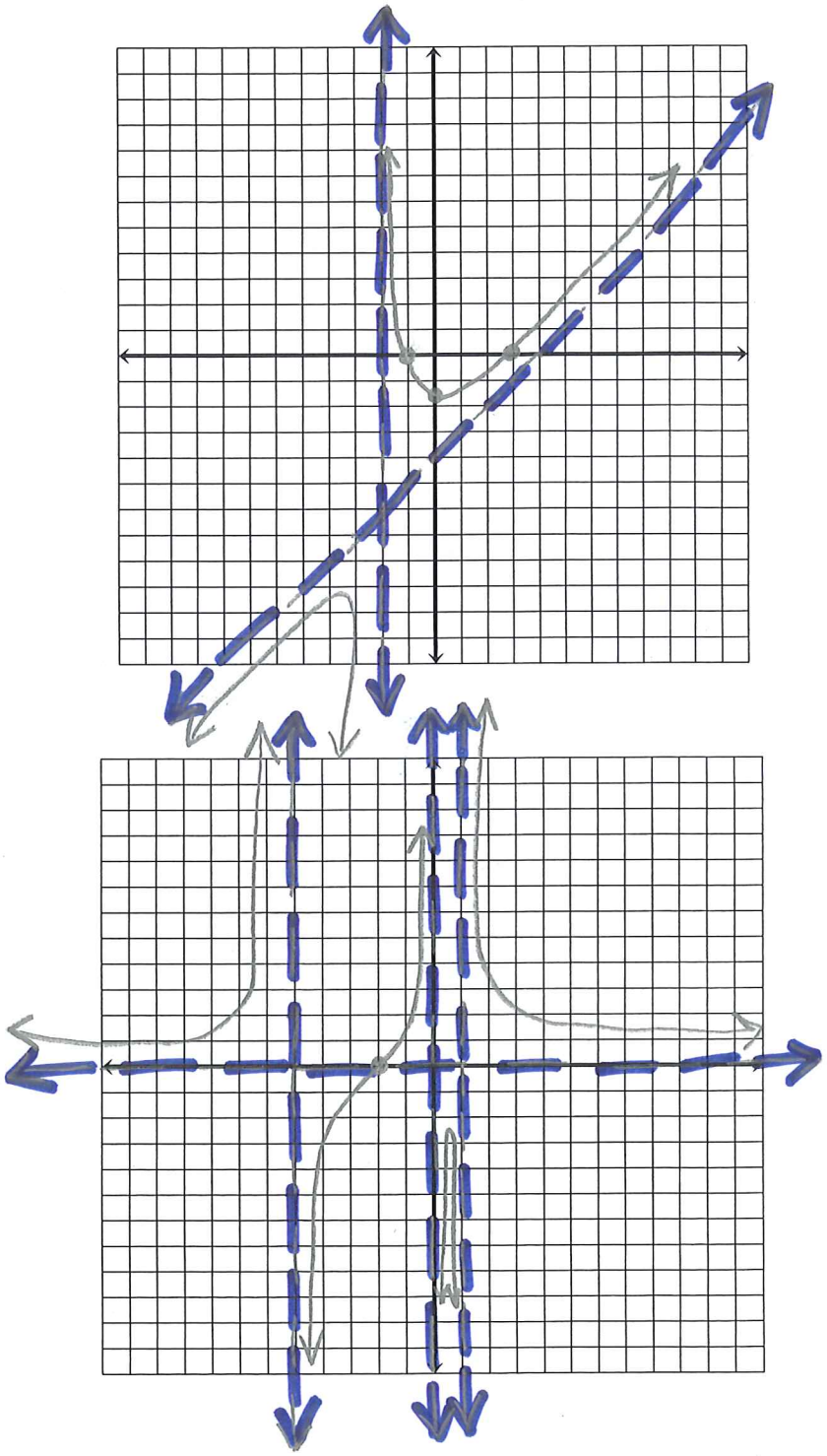
PA: —

y-int. = None

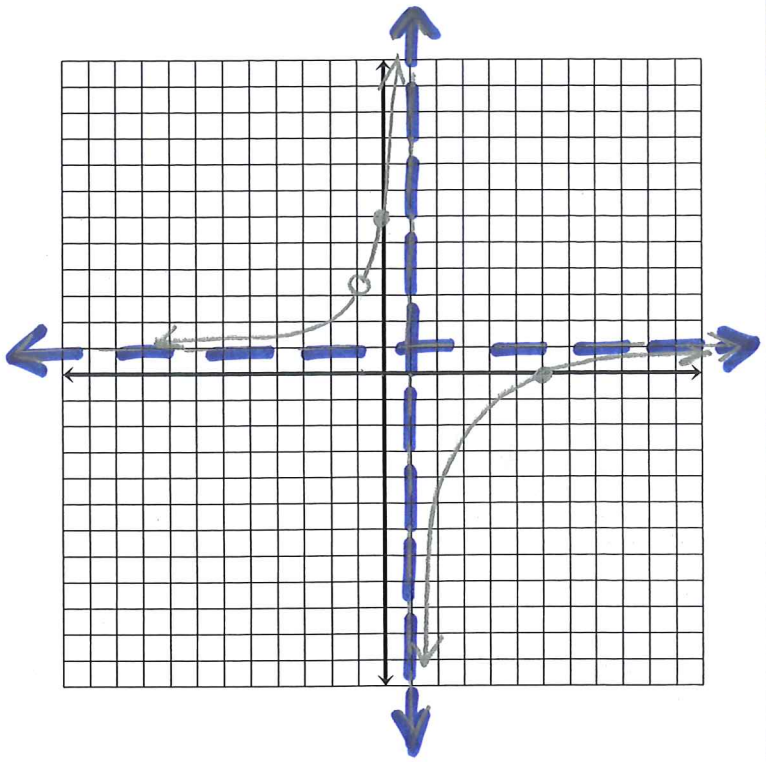
Hole = None

Exclusion chart:

	-5	-2	0	1
x	−	−	−	+	+
$x+2$	−	−	+	+	+
$x+5$	−	+	+	+	+
$x-1$	−	−	−	−	+
$f(x)$	+	−	+	−	+



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



CV : 1, 6

Root(s): 6, ∅

VA: $x=1$

HA: $y=1$

SA: ———

PA: ———

y-int. = (0, 6)

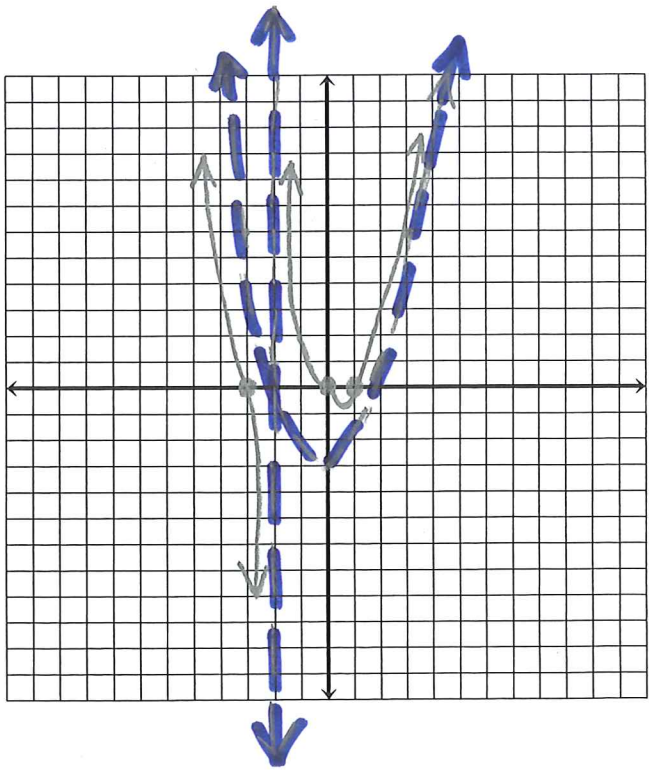
Hole = $(-1, \frac{7}{2})$

Exclusion chart:

		1		6	
$x-6$	−		−	0	+
$x-1$	−	0	+		+
$f(x)$	+	∄	−	0	+

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

$\dfrac{x(x+3)(x-1)}{x+2}$



CV : −3, −2, 0, 1

Root(s): 0, −3, 1

VA: $x=-2$

HA: ———

SA: ———

PA: $y=x^2-3$

y-int. = (0, 0)

Hole = None

$$\begin{array}{r|rrrr} -2 & 1 & 2 & -3 & 0 \\ & & -2 & 0 & -6 \\ \hline & 1 & 0 & -3 & \not{6} \end{array}$$

Exclusion chart:

		−3		−2		0		1	
x	−		−		−	0	+		+
$x+3$	−	0	+		+		+		+
$x-1$	−		−		−		−	0	+
$x+2$	−		−	0	+		+		+
$f(x)$	+	∄	−	∄	+	0	−	0	+