

Sketch the graph of each rational function. Identify the asymptotes and holes, if any.

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

CV: $-2, -1$

X intercepts: $(-2, 0)$

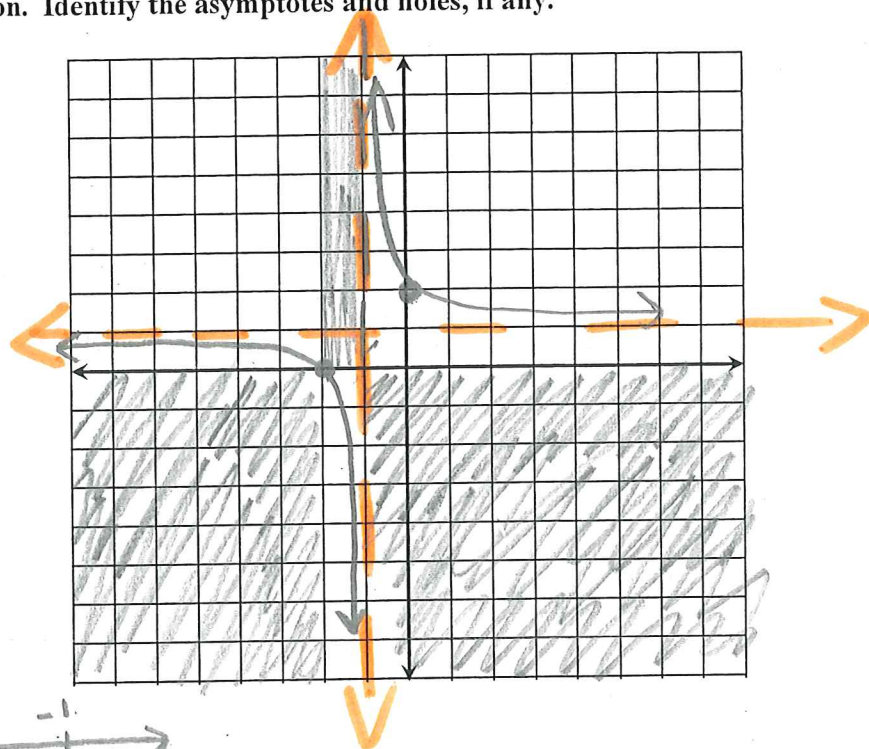
Root(s): $x = -2$

VA: $x = -1$

HA: $y = 1$

Hole = none

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



Exclusion chart:

	$x < -2$	$x = -2$	$-2 < x < -1$	$x = -1$	$x > -1$
$x+2$	-	•	+	+	+
$x+1$	-	-	-	•	+
$f(x)$	+		-		+

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

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

$y = \frac{x-2}{x-1}$

CV: $2, 1$

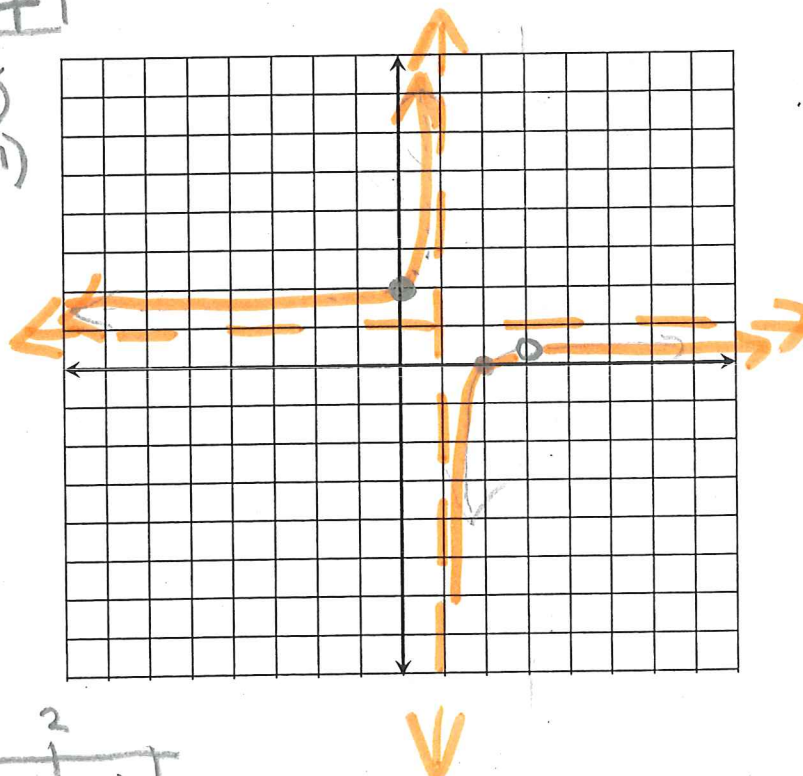
Root(s): $x = 2$

VA: $x = 1$

HA: $y = 1$

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

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



Exclusion chart:

	$x < 1$	$x = 1$	$1 < x < 2$	$x = 2$	$x > 2$
$x-2$	-	-	-	•	+
$x-1$	-	•	+	+	+
$f(x)$	+		-		+

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

CV : _____

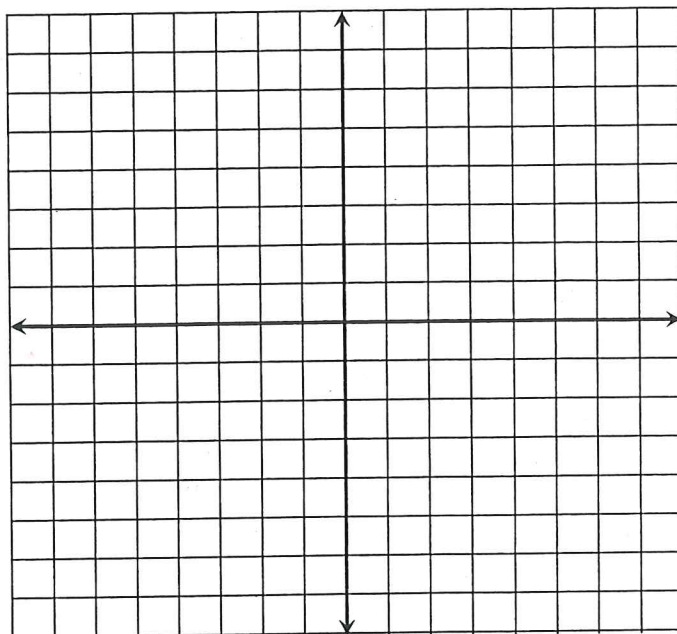
Root(s): $x =$ _____

VA: _____

HA: _____

Hole = _____

y -int. = _____



Exclusion chart :

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

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

CV : 0, 2

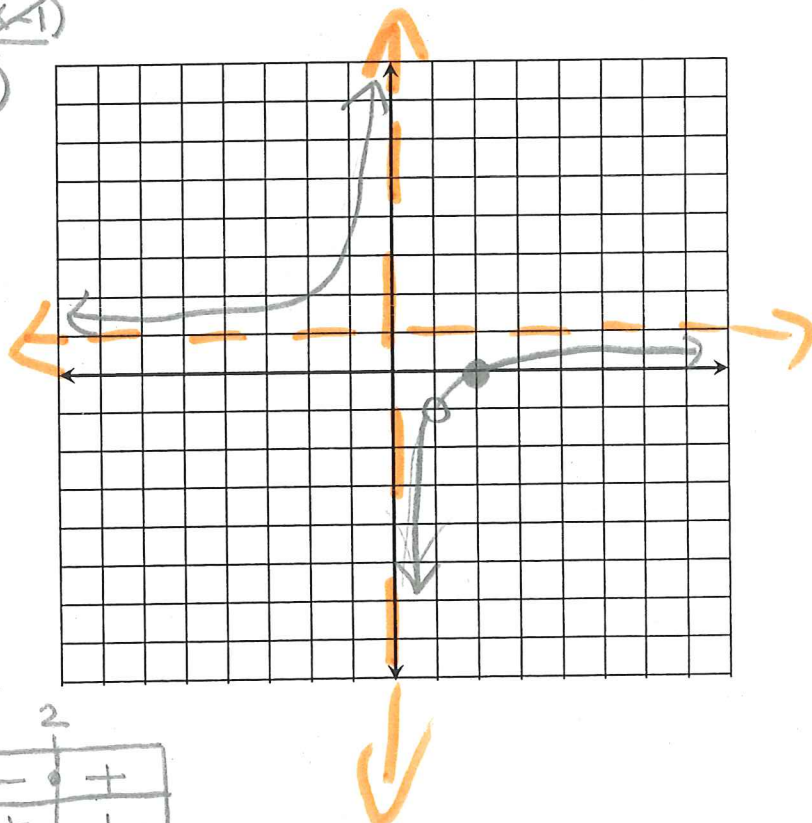
Root(s): $x =$ (2, 0)

VA: $x = 0$

HA: $y = 1$

Hole = (1, -1)

y -int. = ☹ None



Exclusion chart :

	$-\infty$	0	2	
$x-2$	-	-	+	
x	-	+	+	
$f(x)$	+	-	+	

5. Graph: $y = \frac{x^2 - 6x + 5}{x^2 - 9}$

$$\frac{(x-5)(x-1)}{(x+3)(x-3)}$$

CV: 5, 1, -3, 3

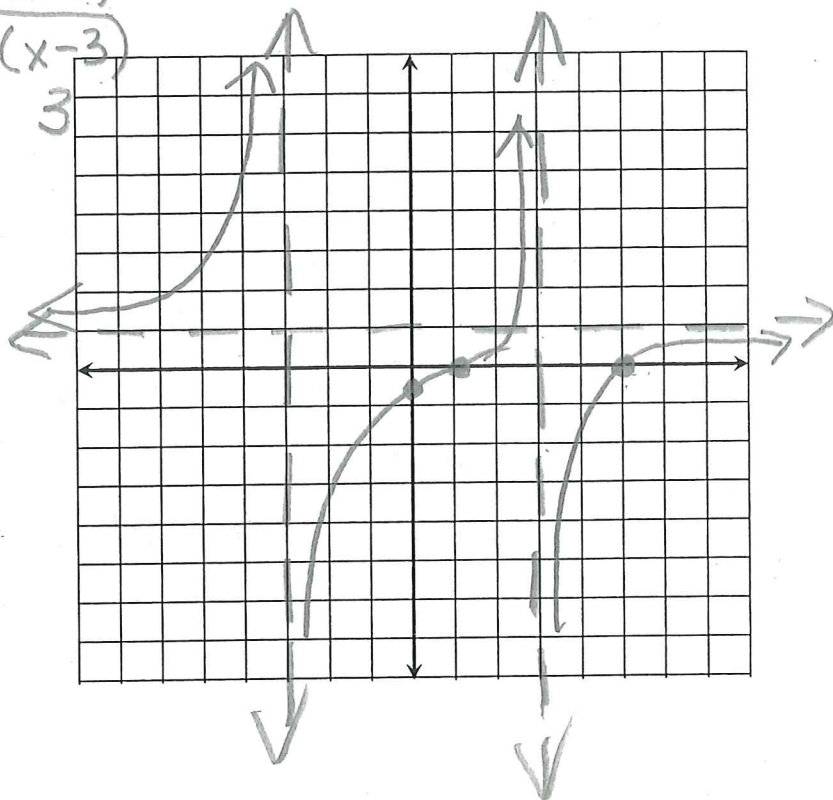
Root(s): $x =$ (5,0)(1,0)

VA: $x = 3, x = -3$

HA: $y = 1$

Hole = None

y-int. = (0, -5/9)



Exclusion chart:

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

$$\frac{(x+6)}{(x+3)(x-2)}$$

CV: -6, -3, 2

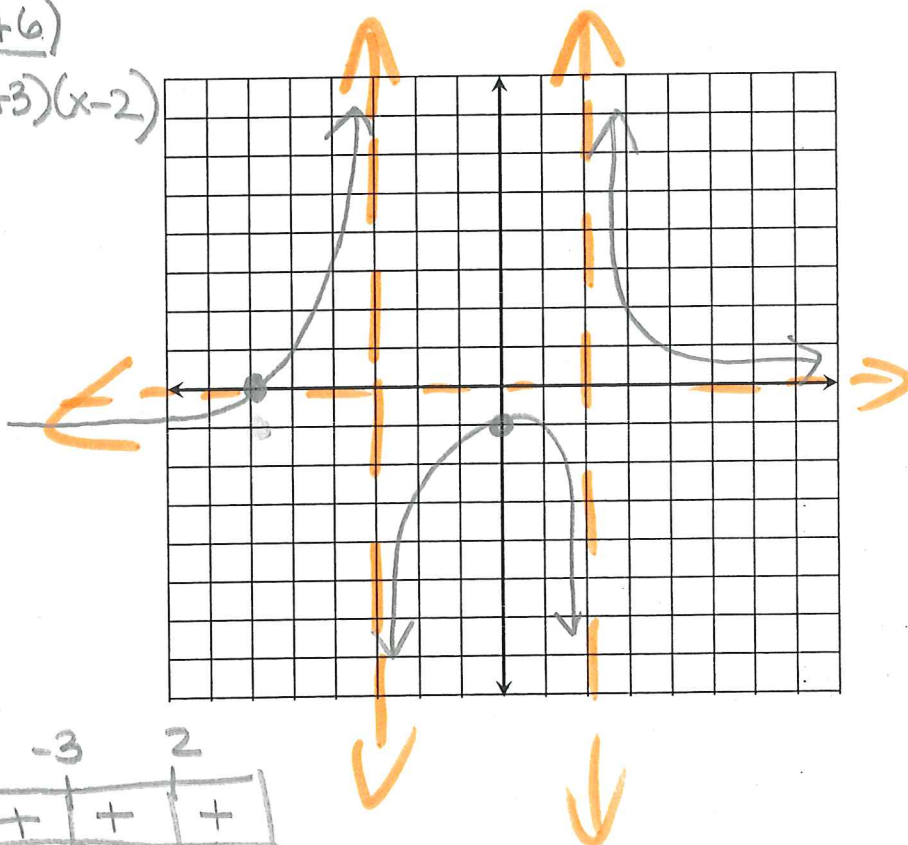
Root(s): $x =$ (-6, 0)

VA: $x = -3, x = 2$

HA: $y = 0$

Hole = None

y-int. = (0, -1)



Exclusion chart:

	-6	-3	2	
$x+6$	-	+	+	+
$x+3$	-	-	+	+
$x-2$	-	-	-	+
$f(x)$	-	+	-	+

7. Graph: $y = \frac{x-5}{x^2+4x+3}$

CV: _____

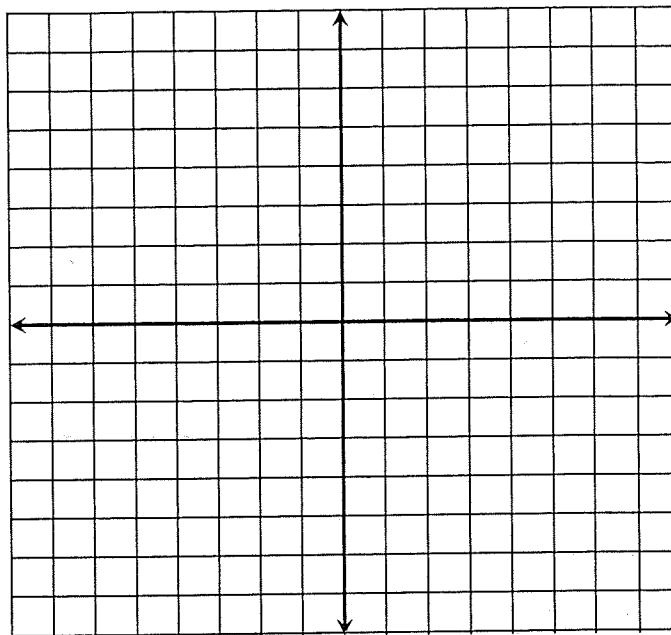
Root(s): $x =$ _____

VA: _____

HA: _____

Hole = _____

y -int. = _____



Exclusion chart :

8. Graph: $y = \frac{4x}{x^3-4x}$

CV: _____

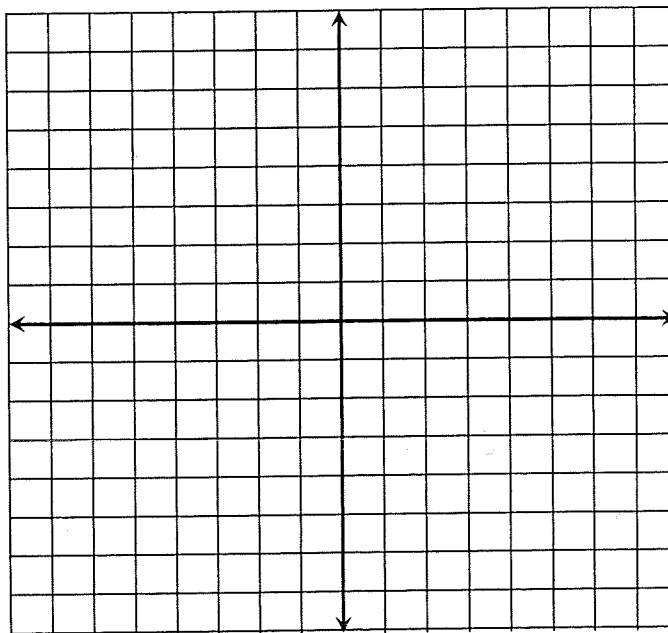
Root(s): $x =$ _____

VA: _____

HA: _____

Hole = _____

y -int. = _____



Exclusion chart :