Algebra 2 Bellwork Mondday, February 8, 2016

2 Find all Holes, Vertical Asymptotes, and Horizontal Asymptotes, if any

1. $y = \dfrac{2x^2 - 8}{x^2 - 3x - 10}$

VA:

Holes:

HA:

2. $y = \dfrac{x^2 - 3x}{x^3 + 4x^2 - 9x - 36}$

VA:

Holes:

HA:

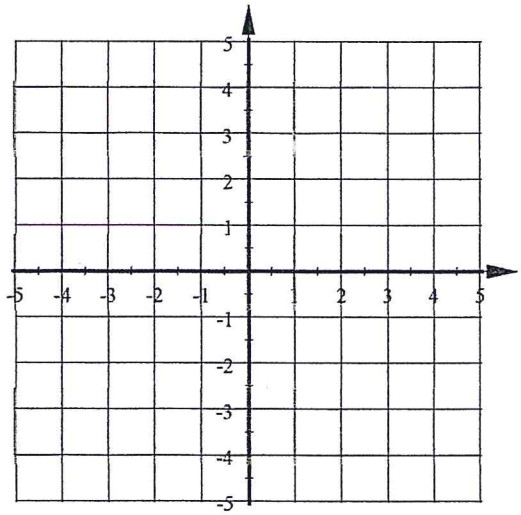
3. $y = \dfrac{x^3 + 7x^2 + 12x}{x^2 + 3}$

VA:

Holes:

HA:

4. Graph this transformation of the function $y = \dfrac{-20}{x+2} - 1$. Show the asymptotes as dashed lines.



Algebra 2 Bellwork Mondday, February 8, 2016 [ANSWERS]

2 Find all Holes, Vertical Asymptotes, and Horizontal Asymptotes, if any

1. $y = \frac{2x^2 - 8}{x^2 - 3x - 10} = \frac{2(x+2)(x-2)}{(x-5)(x+2)}$

VA: $x = 5$

Holes: $x = -2$

HA: $y = 2$

2. $y = \frac{x^2 - 3x}{x^3 + 4x^2 - 9x - 36} = \frac{x(x-3}{(x+4)(x+}$

VA: $x = -4, -3$

Holes: $x = 3$

HA: $y = 0$

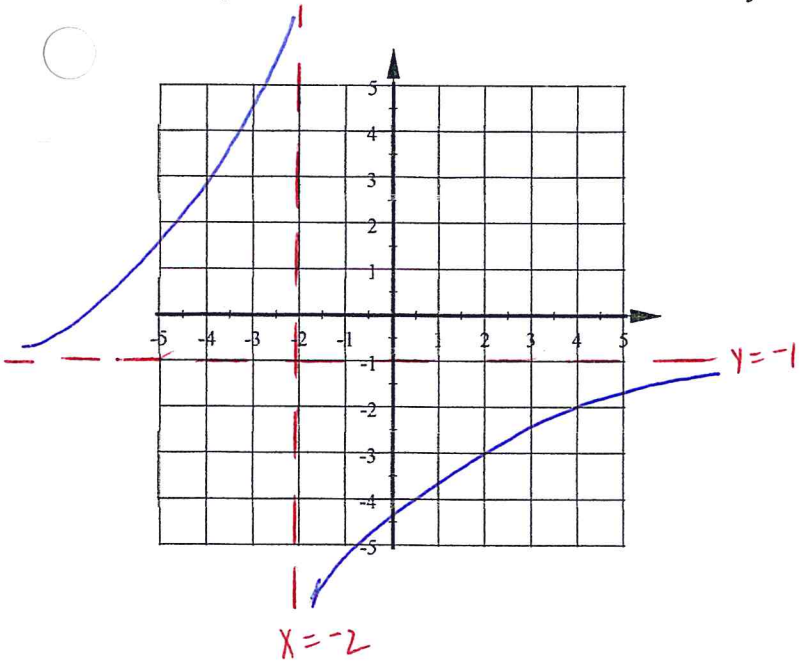
3. $y = \frac{x^3 + 7x^2 + 12x}{x^2 + 3}$ → $x^2 + 3$ has NO Real zeros

VA: NONE

Holes: NONE

HA: NONE

4. Graph this transformation of the function $y = \frac{-20}{x+2} - 1$. Show the asymptotes as dashed lines.



HA: $y = -1$

VA: $x = -2$

Branches are in Quad II & IV

"far" away

	x	+4
x^2	x^3	$4x^2$
-9	$-9x$	-36

-20 -1