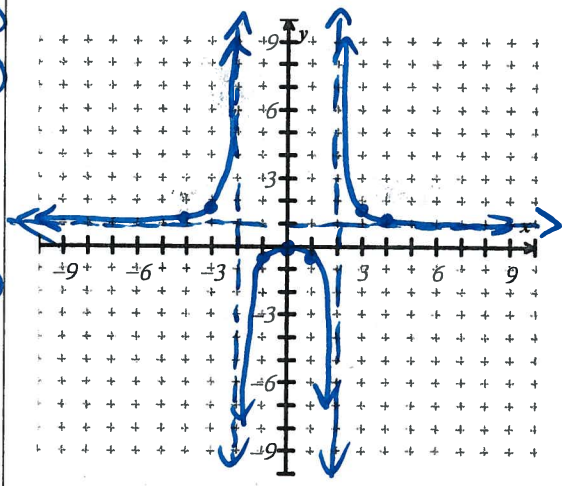
HOMEWORK: GRAPH RATIONAL FUNCTIONS 2 DAY 24

NAME: _____ DUE DATE: _____

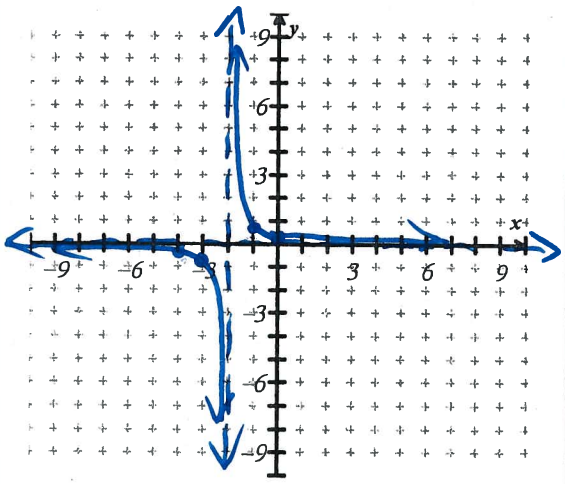
1. $y = \frac{x^2}{x^2 - 4} = \frac{x^2}{(x+2)(x-2)}$

Removable Discontinuities:

VA:	Domain:	Table	Graph
$x = \pm 2$	$\mathbb{R}$, $x \neq \pm 2$	x | y -4 | 16/(-2)(-6) -3 | 9/(-1)(-5) -2 | ERR -1 | 1/(-3) 0 | 0 1 | 1/(3)(-1) 2 | ERR 3 | 9/(5)(1) 4 | 16/(6)(2)	
HA:	Range:		
Same Degree $y = \frac{1}{1}$	$\mathbb{R}$, $y \neq 1$		

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

Removable Discontinuities:

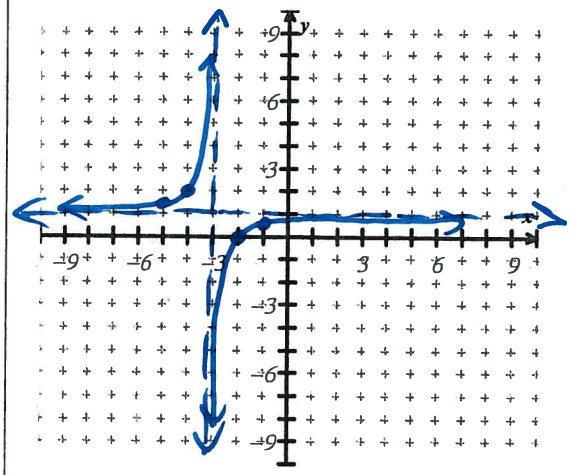
VA:	Domain:	Table	Graph
$2(x+2)=0$ $x+2=0$ $x=-2$	$\mathbb{R}$, $x \neq -2$	x | y -4 | 1/2(-2) -3 | 1/(2)(-1) -2 | ERR -1 | 1/(2)(1) 0 | 1/2(2)	
HA:	Range:		
$y=0$	$\mathbb{R}$, $y \neq 0$		

3. $f(x) = \dfrac{x^2 + 4x + 4}{x^2 + 5x + 6} = \dfrac{(x+2)^2}{(x+2)(x+3)} = \dfrac{(x+2)}{(x+3)}$

$x+2=0$, $x=-2$

$y = \dfrac{(-2+2)}{(-2+3)}$, $y = 0$

Removable Discontinuities: $(-2, 0)$ (x, y)

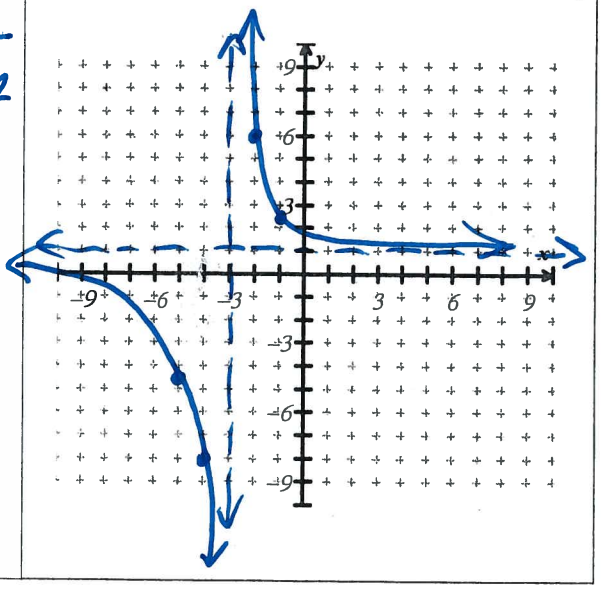
VA:	Domain:	Table	Graph
$x+3=0$, $x=-3$	$\mathbb{R}, x \neq -3, -2$	x | y -5 | $-3/-2$ -4 | $-2/-1$ -3 | ERR -2 | $0/1$ -1 | $1/2$	
HA: Same Degree, $y = \frac{1}{1}$	Range: $\mathbb{R}, y \neq 1, 0$		

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

$x-1=0$, $x=1$

$y = \dfrac{1-4}{1+3}$, $y = -3/4$

Removable Discontinuities: $(1, -3/4)$ (x, y)

VA:	Domain:	Table	Graph
$x+3=0$, $x=-3$	$\mathbb{R}, x \neq -3, 1$	x | y -5 | $-9/-2$ -4 | $-8/-1$ -3 | ERR -2 | $-6/1$ -1 | $-5/2$	
HA: Same Degree, $y = \frac{1}{1}$	Range: $\mathbb{R}, y \neq 1, -\frac{3}{4}$		