

Midterm Is Friday !!!

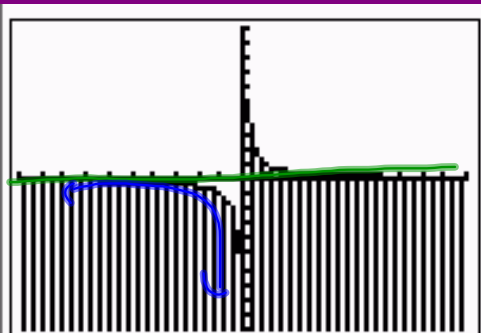
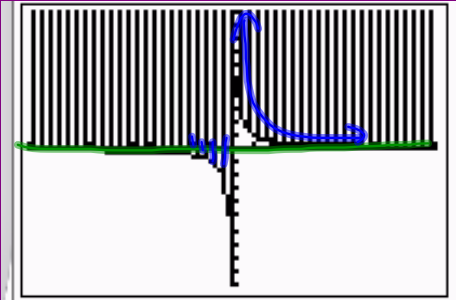
You Need to get 3 Signatures on your Midterm Review

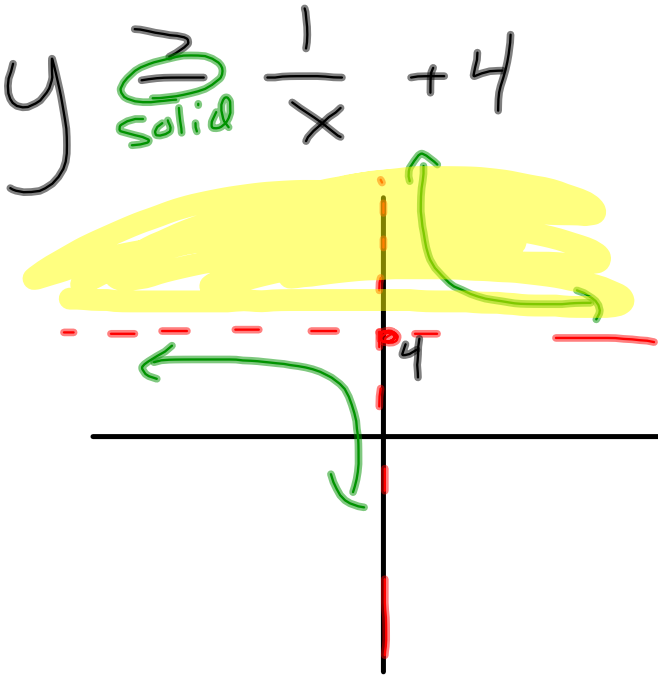
Today: Graphing Rational Inequalities

Use a graphing Calculator or just think about y values

Use a graphing Calculator or just think about y values

You will shade either above or below the horizontal asymptote





$$y \geq \frac{4}{x}$$

$$y \leq \frac{\cancel{x+1}}{x^2 + 3x + 2} = \frac{\cancel{x+1}}{(\cancel{x+1})(x+2)}$$

$$\frac{x}{x^2 - 1} = 0$$

Hde:

$$x = -1$$

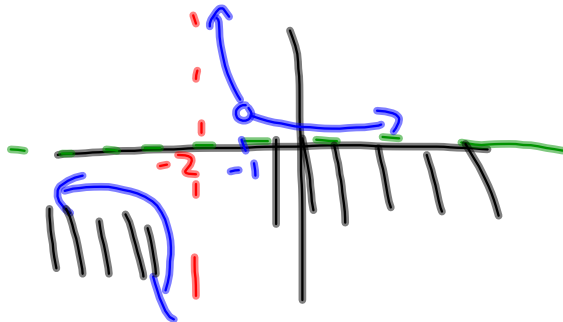
VA:

$$(x+2) = 0$$

$$x = -2$$

HA:

$$y = 0$$



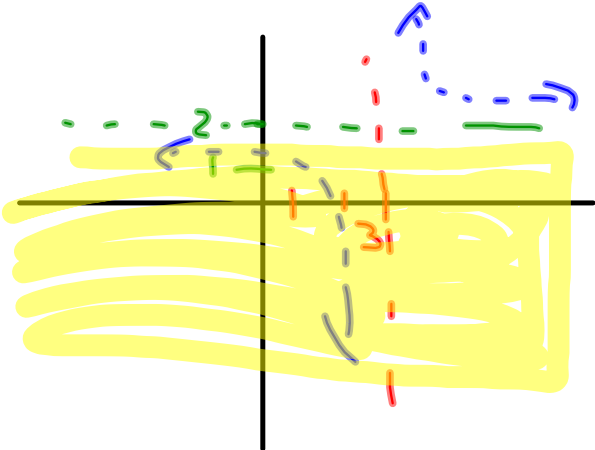
$y \leq \frac{1}{x-3} + 2$

dot + 2

$VA: x=3$ (red)

$HA: y=2$ (green)

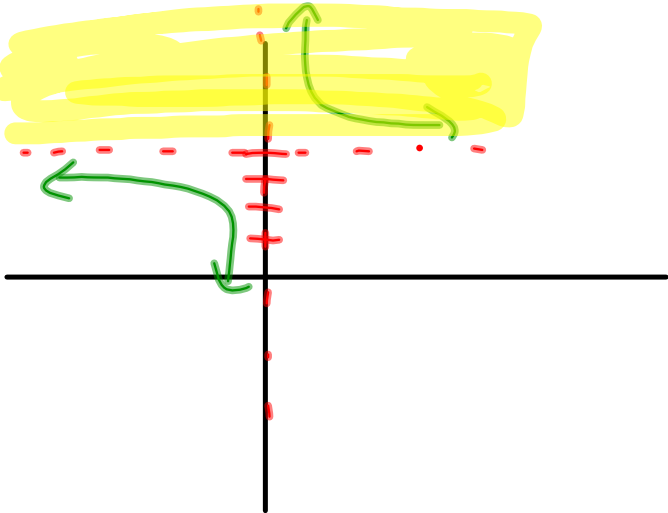
UP 2



$$y \geq \frac{1}{x} + 4$$

VA: $x = 0$

HA: $y = 4$



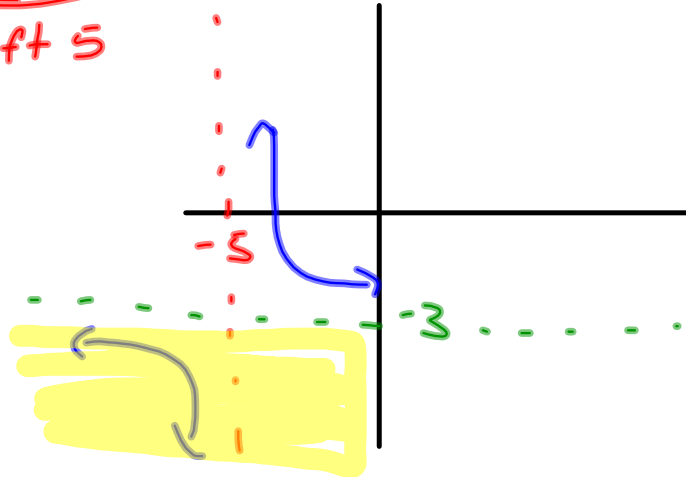
$$y \leq \frac{1}{x+5} - 3$$

Annotations: $x+5$ is circled in red with "left 5" written below it. -3 is circled in green with "down 3" written above it.

VA: $x = -5$

HA: $y = -3$

Shade:

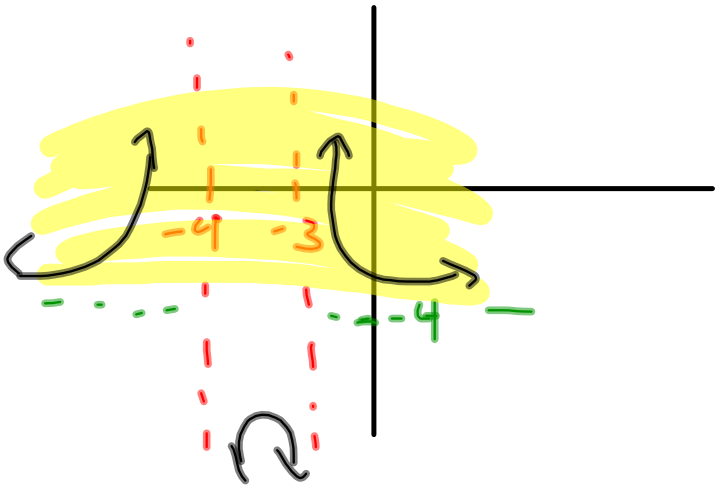


$$y \geq \frac{1}{(x+4)(x+3)}$$

$(x+4)(x+3)$

$\text{HA: } y = -4$

$\text{VA: } x = -4 \quad x = -3$



$$y \geq \frac{x+1}{x^2+3x+2} \quad (-4)$$

$(x+1)(x+2)$

Hole:
 $x+1=0$
 $x=-1$

VA: $x+2=0$
 $x=-2$

HA: $y=-4$

