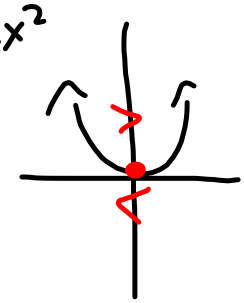
$$\frac{(b-6)2b}{(b-6)3} + \frac{b-5(3)}{b-6(3)} \geq 0$$

Graph : $y = \sqrt{3x+2}$ $y = x^2+3x+2$

$y=x^2$

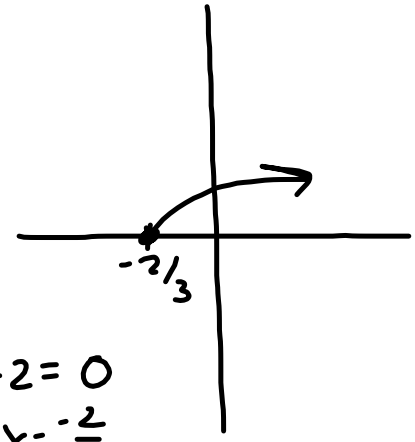


$y = \sqrt{x+5} - 4$ $y = x^2+9x+18$

$y = \frac{x+3}{x-2}$

$$\frac{6}{2} + \frac{6x}{3x^2-6x} \leq 0$$

$y = \sqrt{3x+2}$



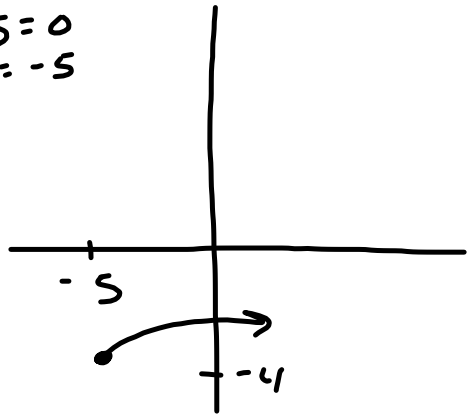
$3x+2=0$

$x=-\frac{2}{3}$

$y=\sqrt{x+5}-4$

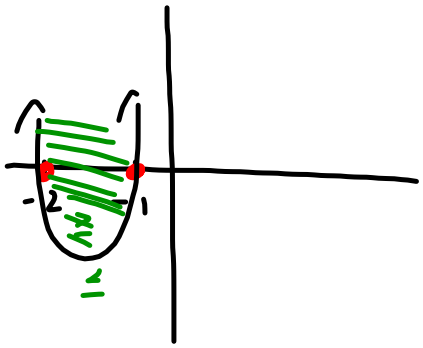
$x+5=0$

$x=-5$



$y: x^2+3x+2$

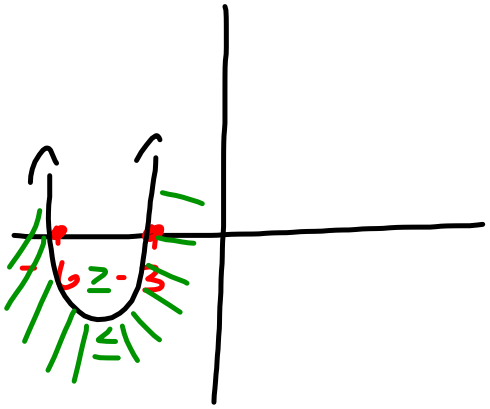
$y=(x+1)(x+2)$



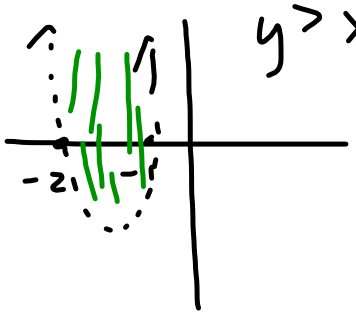
$y \geq x^2+3x+2$

$y = x^2+9x+18$

$(x+6)(x+3)$

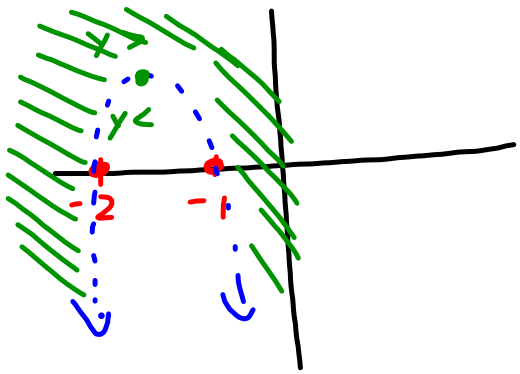


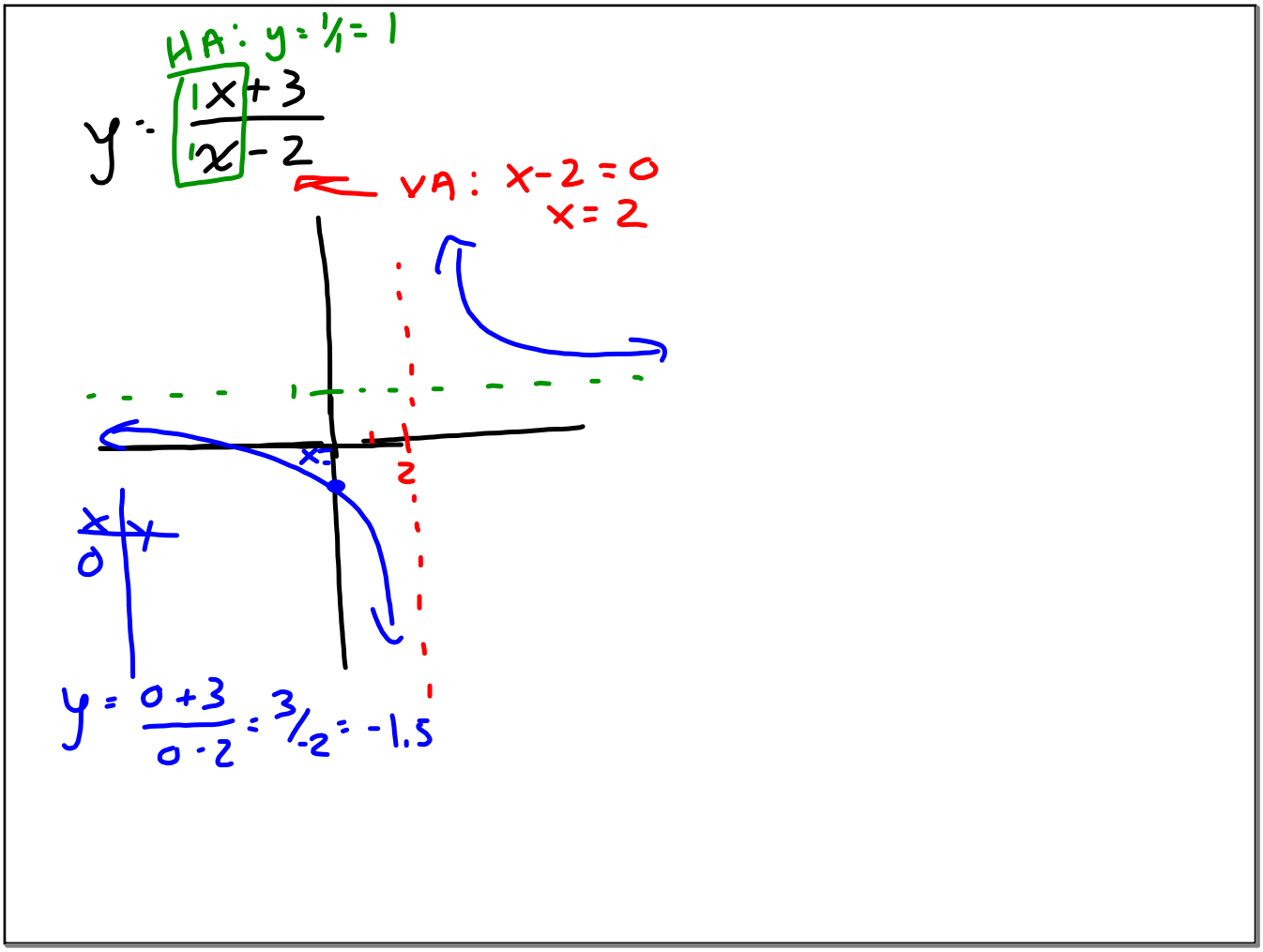
$y \leq x^2+9x+18$

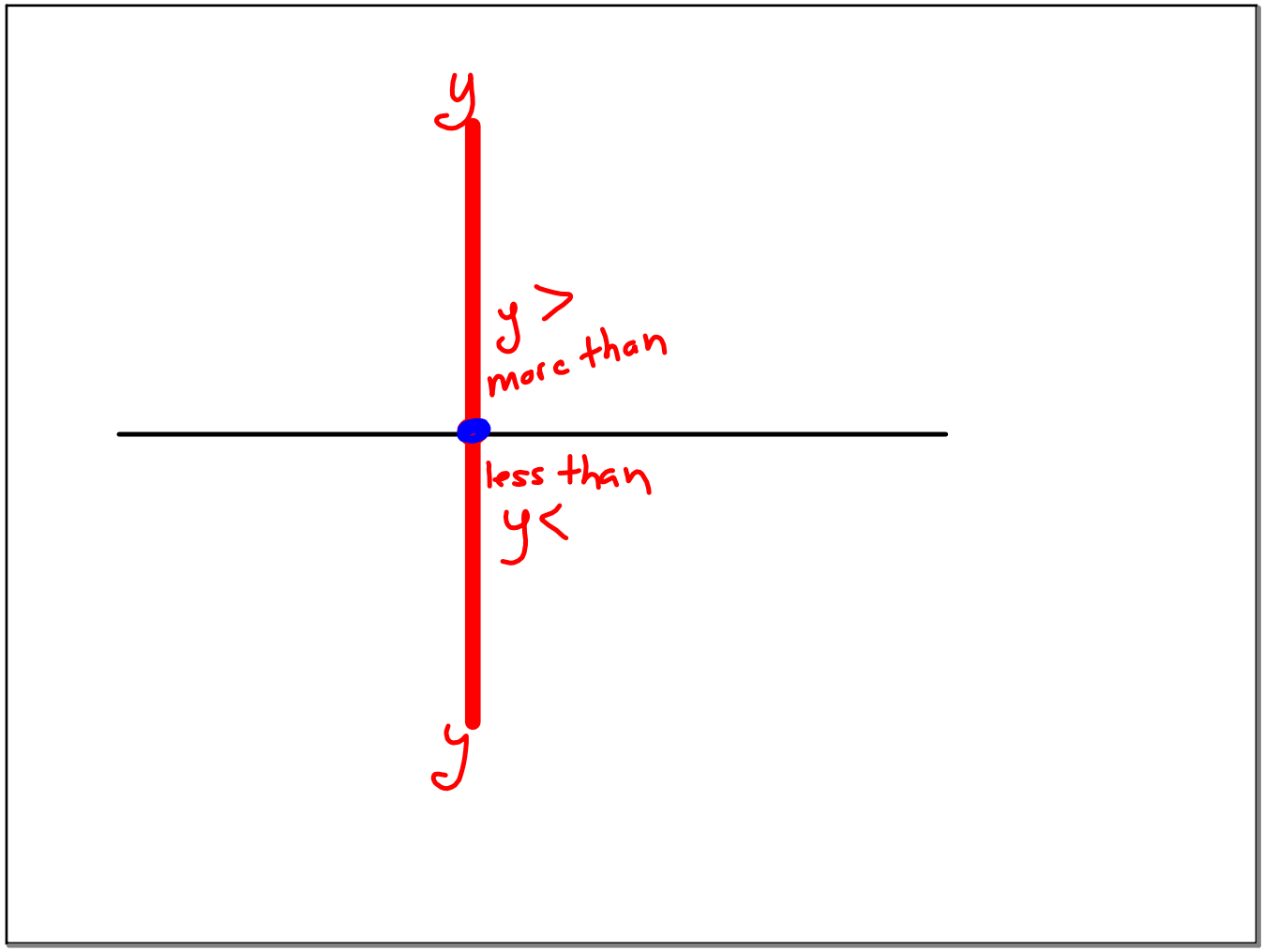


$y > x^2+3x+2$

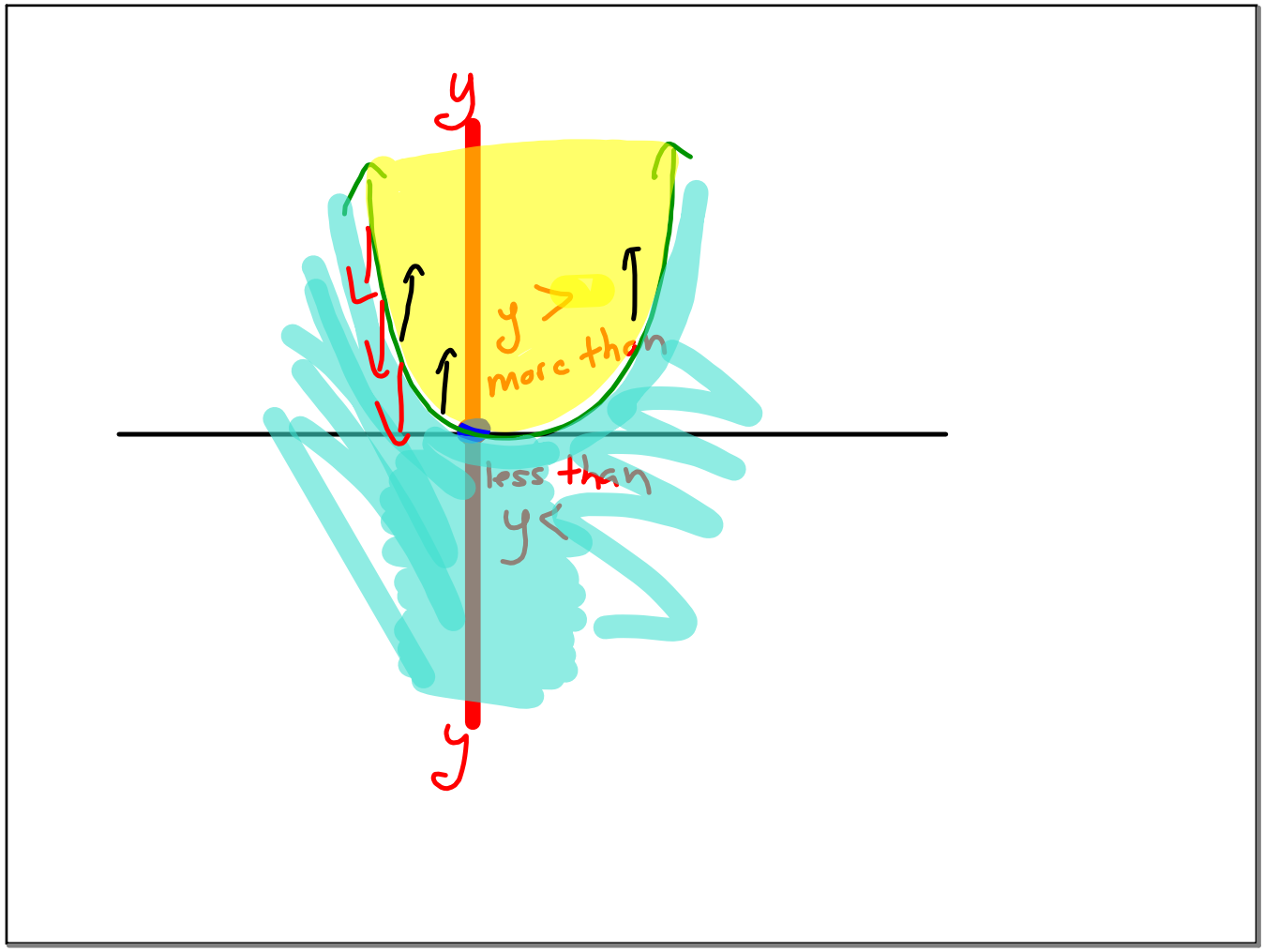
$y > -x^2+3x+2$




HA: y = 1/1 = 1
y = 1x + 3 / 1x - 2
VA: x - 2 = 0
x = 2
x
0
y = 0 + 3 / 0 - 2 = 3/-2 = -1.5



Nov 19-8:30 AM

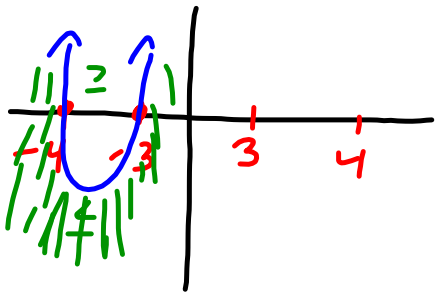


Nov 19-8:30 AM

$y \leq x^2 + 7x + 12$

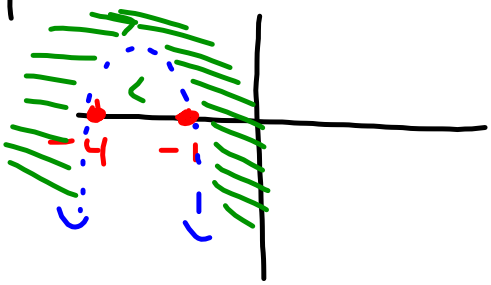
$(x+3)(x+4)$

$x = -3 \quad x = -4$



$y > -x^2 + 5x + 4$

$-(x+4)(x+1)$



$y < 2x^2 - x - 3$

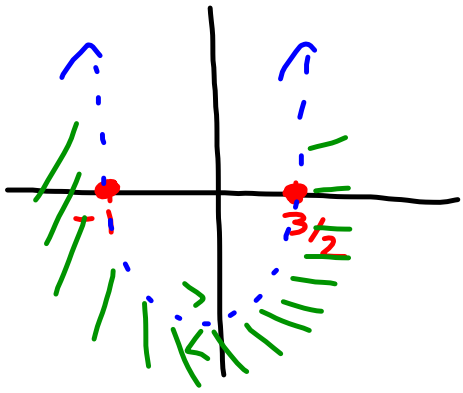
$2(-3) = -6$

$-3 \cdot 2$

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

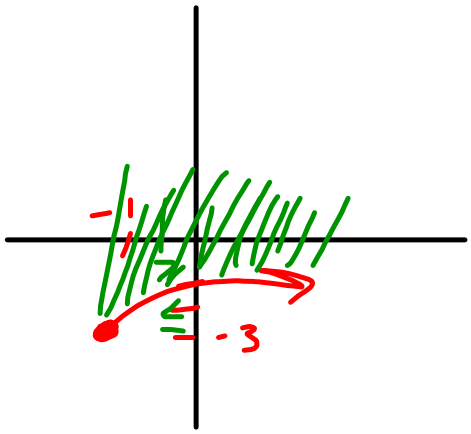
$(2x-3)(x+1)$

$x = 3/2 \quad x = -1$



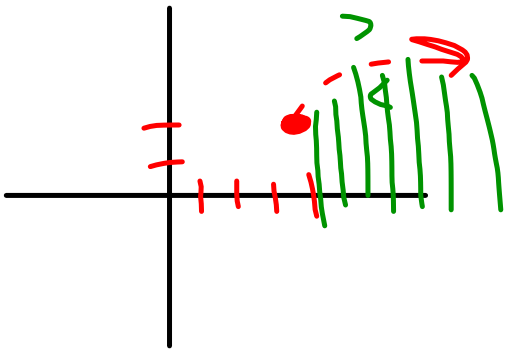
$y \geq \sqrt{x+1} - 3$

left 1 down 3



$y < \sqrt{x-4} + 2$

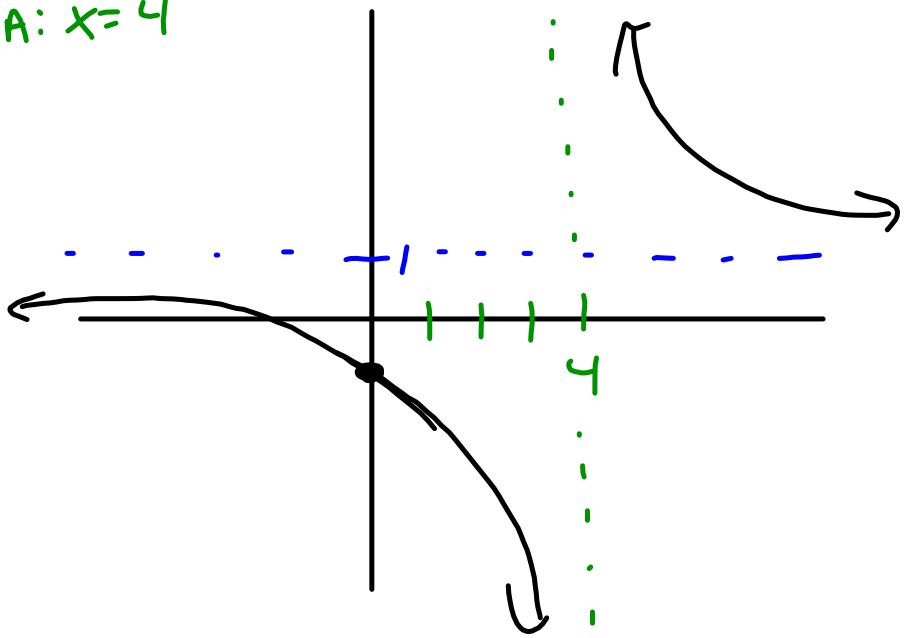
Rt 4 up 2



HA: same $y = \frac{1}{1} = 1$

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

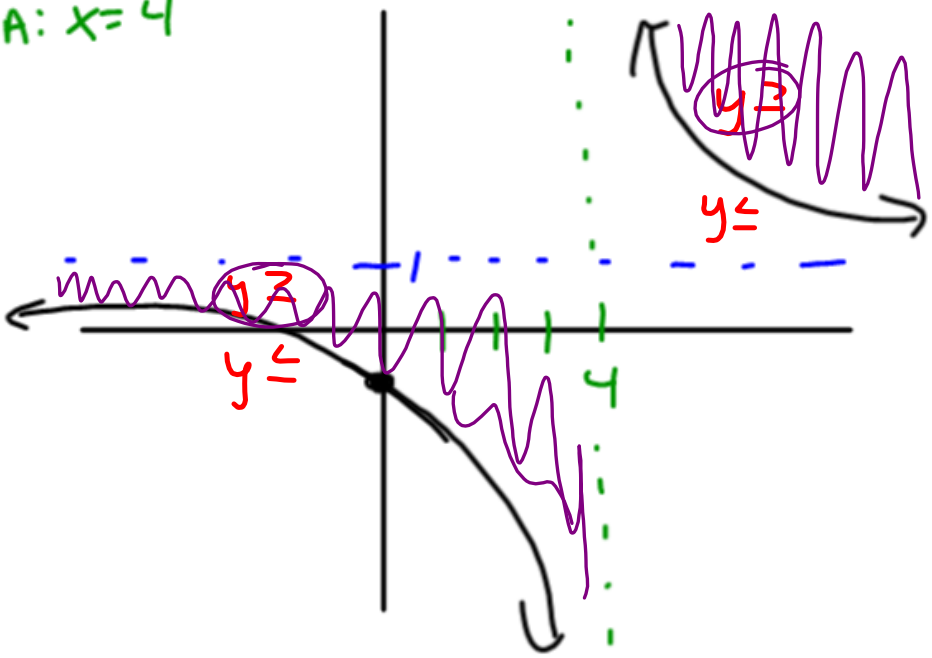
VA: $x = 4$



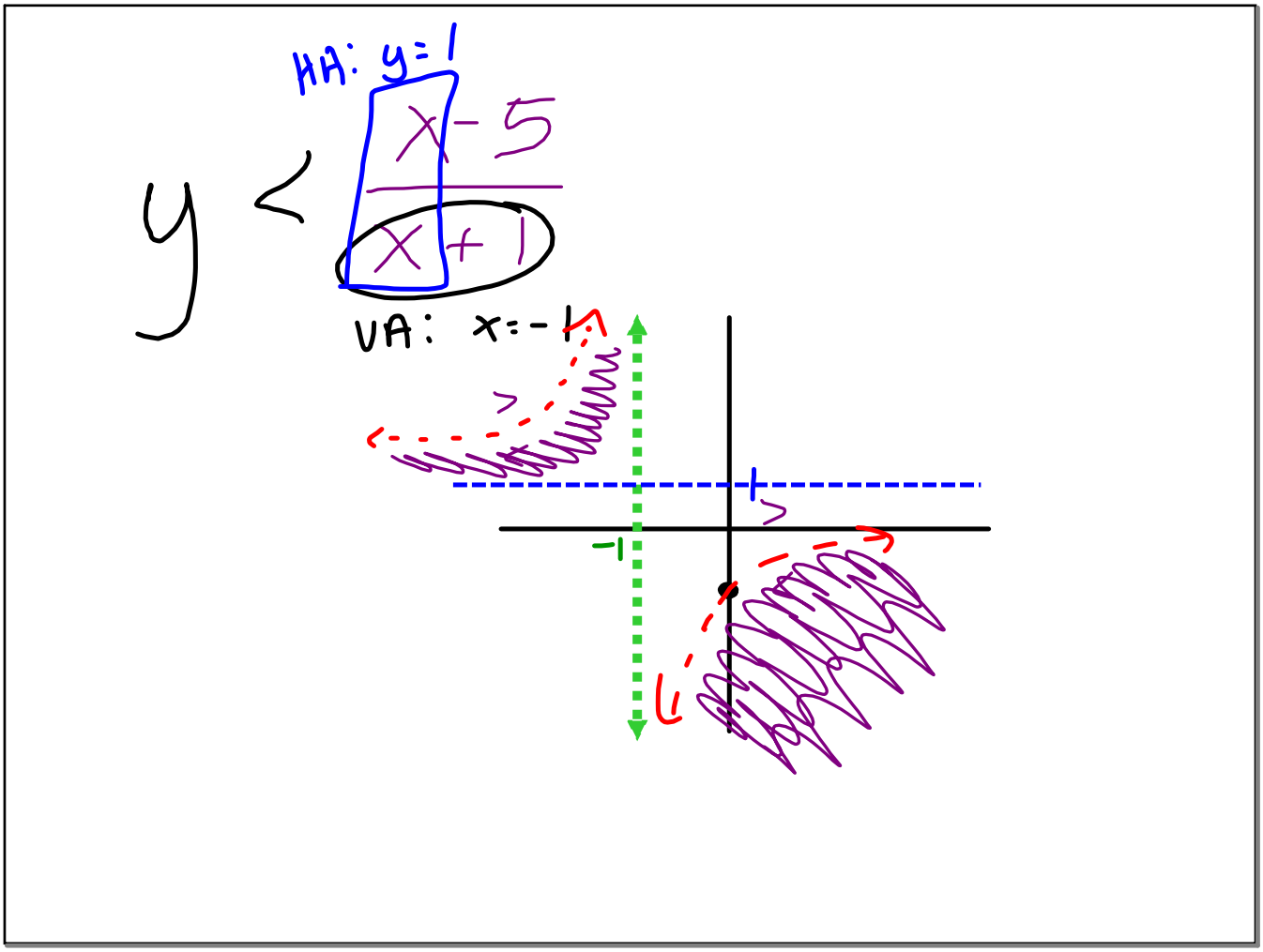
HA: same $y = \frac{1}{1} = 1$

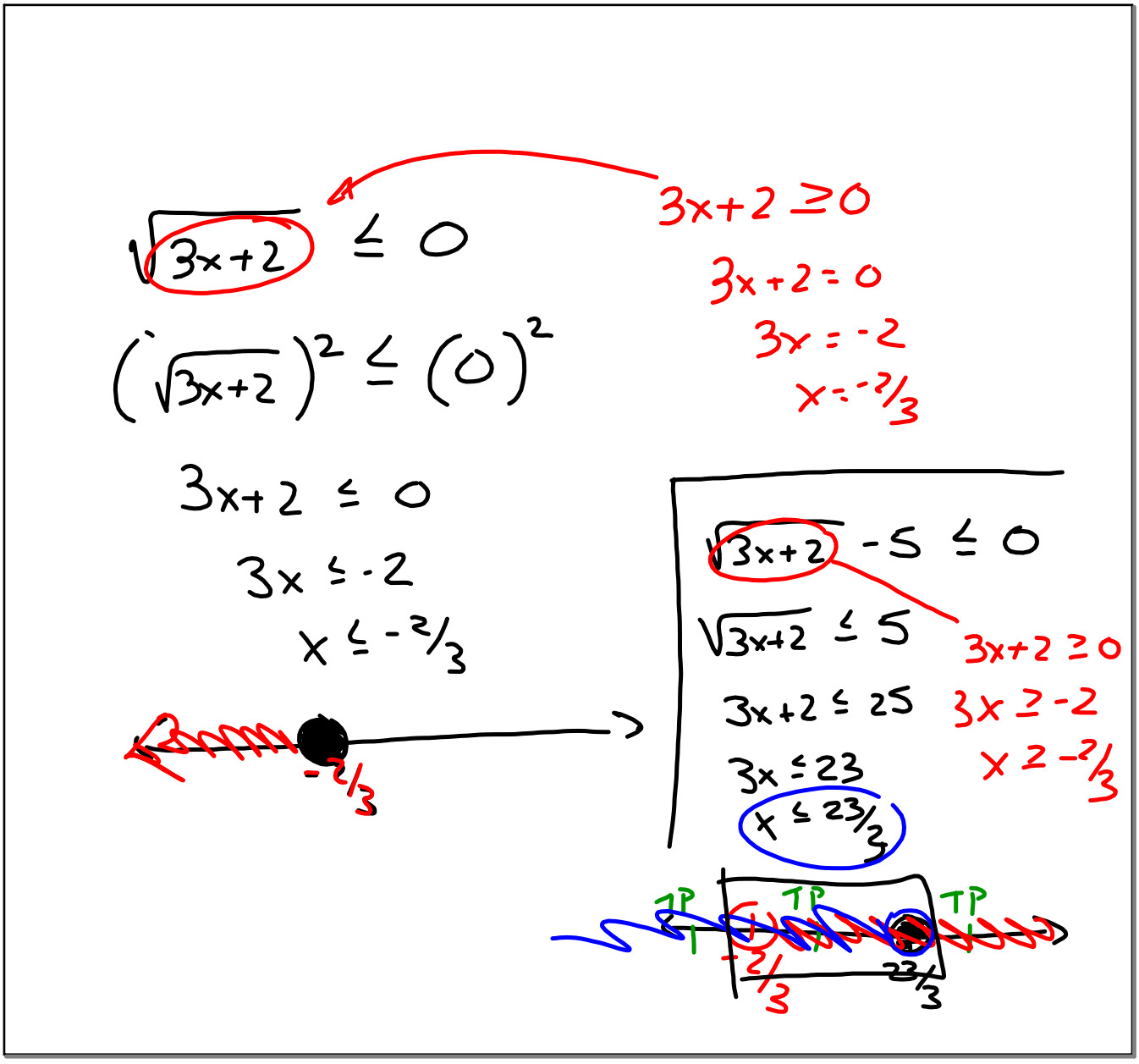
$y \geq \frac{1x+3}{x-4}$

VA: $x = 4$

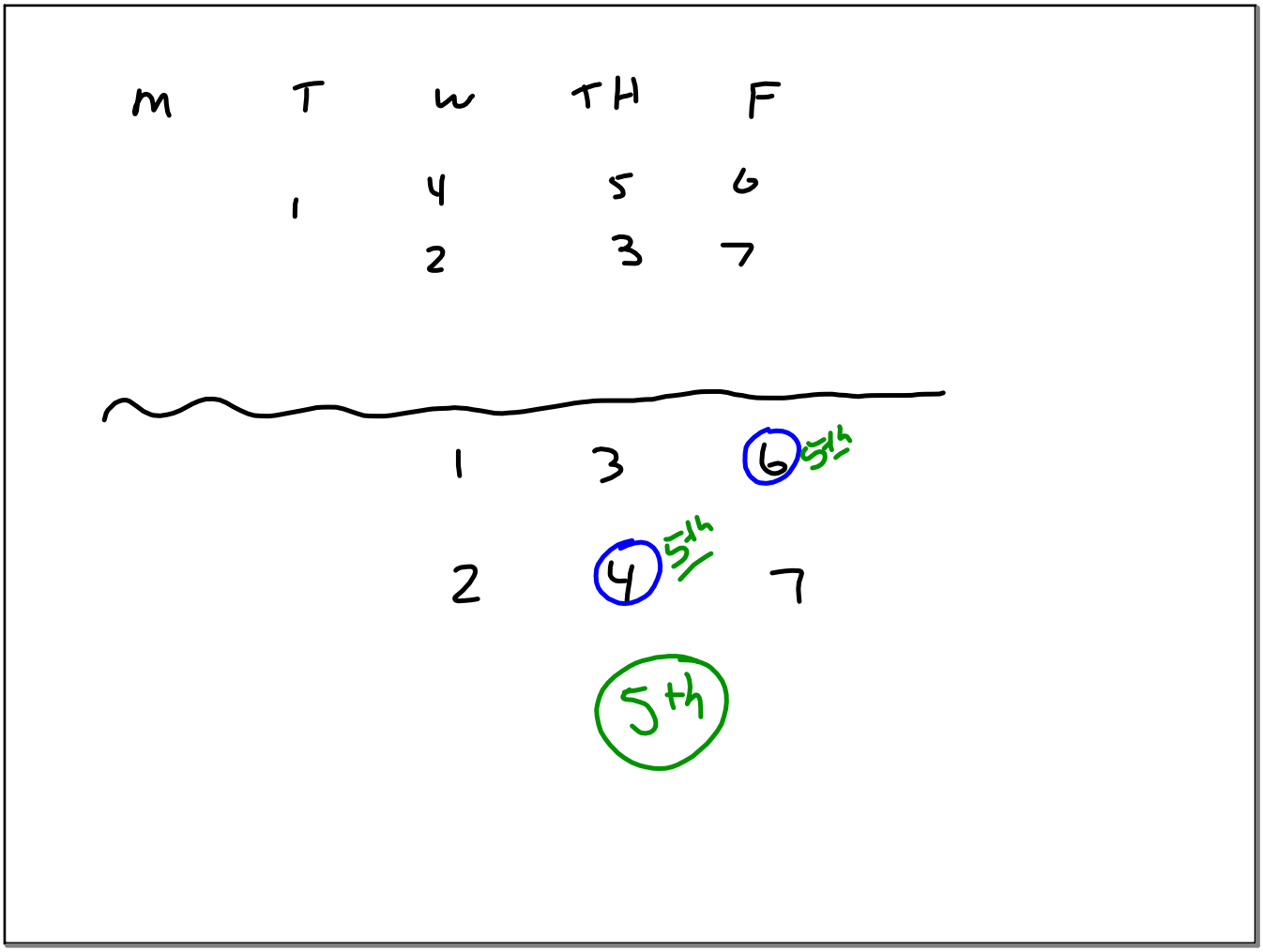


Extend Page

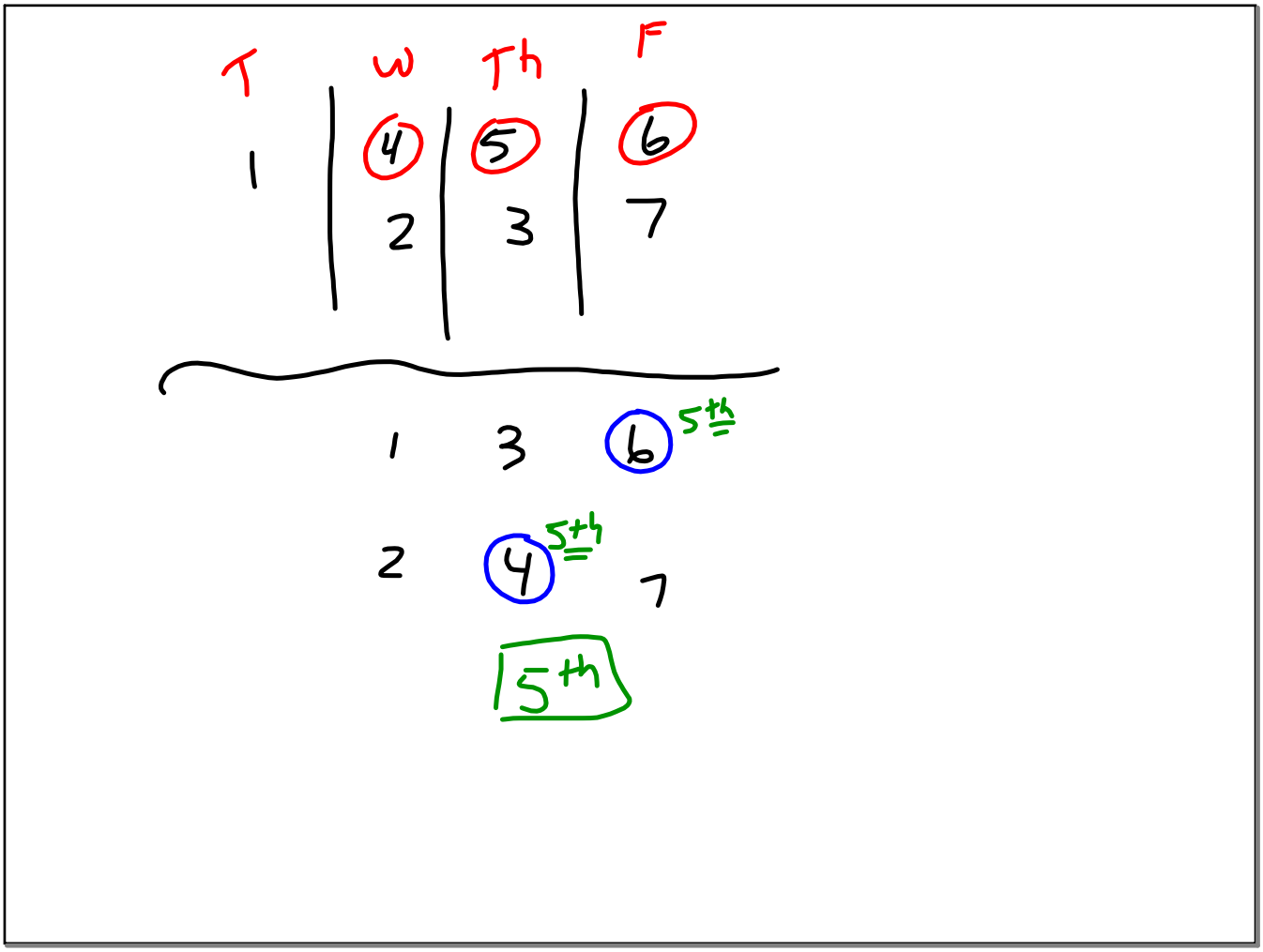

HA: y=1
y <
x - 5
x + 1
VA: x=-1
-1


$\sqrt{3x+2} \leq 0$
$(\sqrt{3x+2})^2 \leq (0)^2$
$3x+2 \leq 0$
$3x \leq -2$
$x \leq -2/3$
$-2/3$
$3x+2 \geq 0$
$3x+2 = 0$
$3x = -2$
$x = -2/3$
$\sqrt{3x+2} - 5 \leq 0$
$\sqrt{3x+2} \leq 5$
$3x+2 \leq 25$
$3x \leq 23$
$x \leq 23/3$
$3x+2 \geq 0$
$3x \geq -2$
$x \geq -2/3$
TP
TP
TP
$-2/3$
$23/3$

Nov 19-8:59 AM



Nov 19-9:12 AM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5th
2
4
5th
7
5th

Radicals

$\sqrt{-3}$
$\sqrt{-5}$ } imaginary

$\sqrt{4}$
$\sqrt{5}$ } okay... "real"

$\sqrt{2x-3} + 7 \geq 0$

$(\sqrt{2x-3})^2 \geq (-7)^2$

$2x-3 \geq 49$

$2x \geq 52$

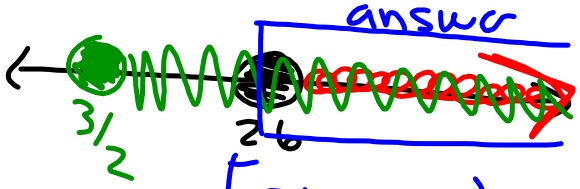
$x \geq 26$

$\sqrt{2x-3}$ ← positive

$2x-3 \geq 0$

$2x \geq 3$

$x \geq 3/2$



$[26, \infty)$

$\sqrt{x-4} + 5 \leq 0$

$(\sqrt{x-4})^2 \leq (-5)^2$

$x - 4 \leq 25$

$x \leq 29$

$x - 4 \geq 0$

$x \geq 4$

$\sqrt{\text{positive}}$ ≥ 0 positive

$\sqrt{\#}$

$x = -5$

$\sqrt{-5-4} + 5$

$\sqrt{-9}$

$x = 3$

$\sqrt{3-4} + 5$

$\sqrt{-1} + 5$

$[4, 29]$

$\sqrt{2x-5} \leq 6$

$2x-5 \leq 36$

$2x \leq 41$

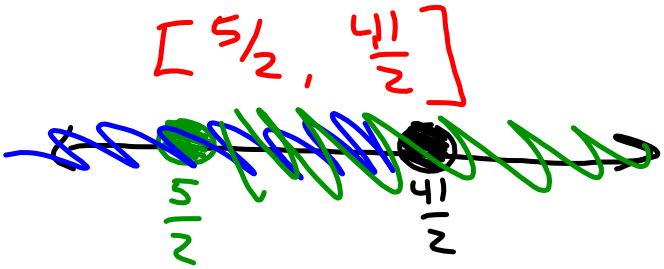
$x \leq \frac{41}{2}$

Also . . . .

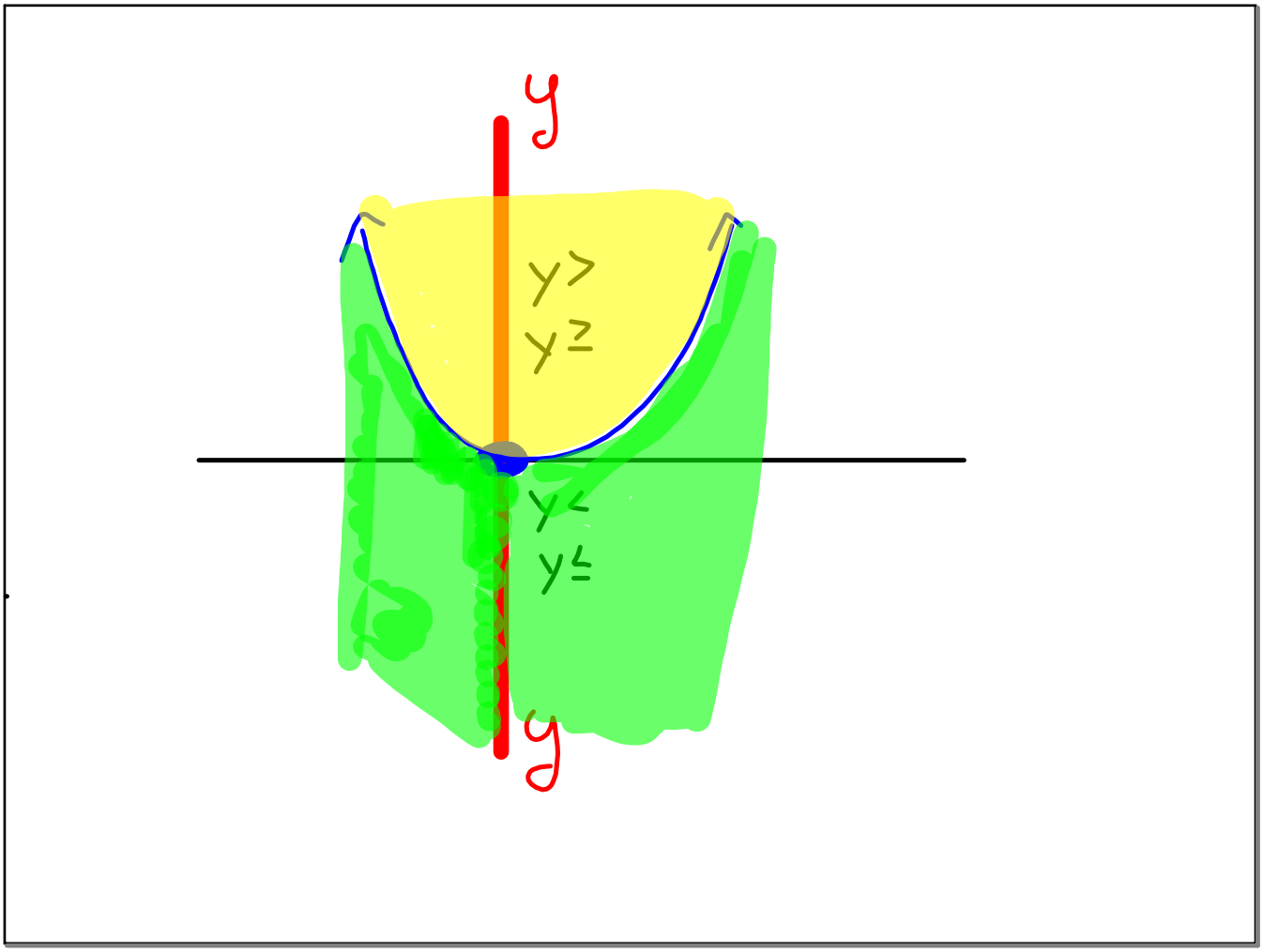
$2x-5 \geq 0$

$2x \geq 5$

$x \geq \frac{5}{2}$



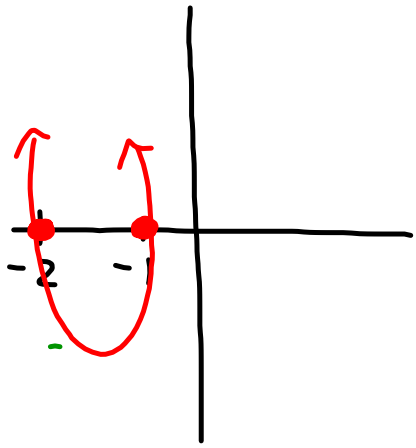
Nov 19-9:32 AM



Nov 19-9:36 AM

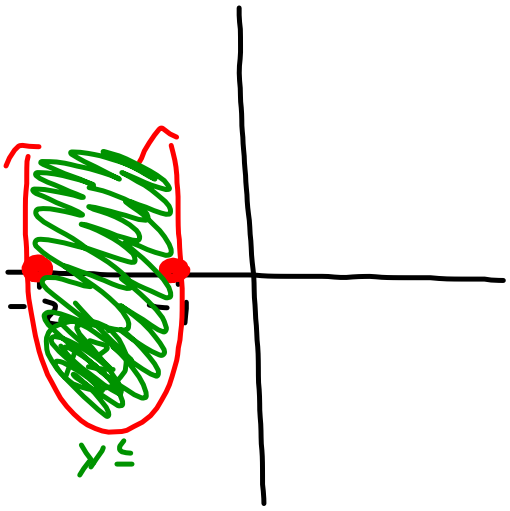
$y = x^2 + 3x + 2$

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



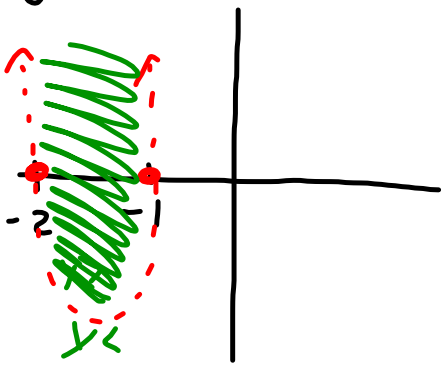
$y \geq x^2 + 3x + 2$

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



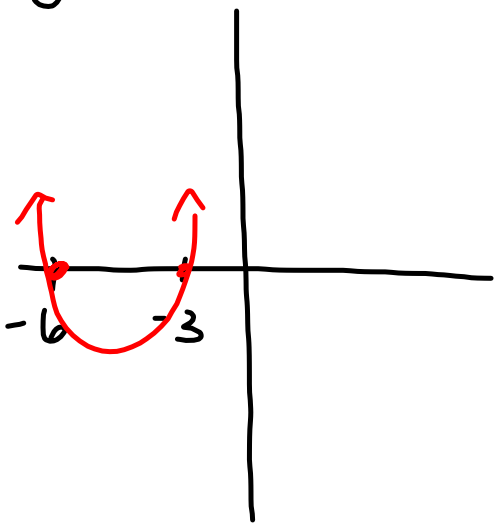
dotted line with ">" "<"

$y > x^2 + 3x + 2$

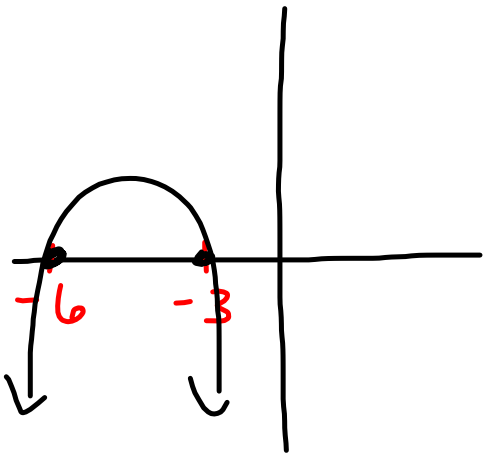


Nov 19-9:40 AM

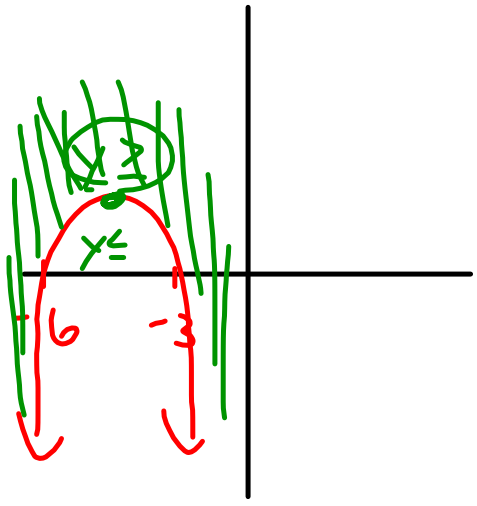
$y = x^2 + 9x + 18$



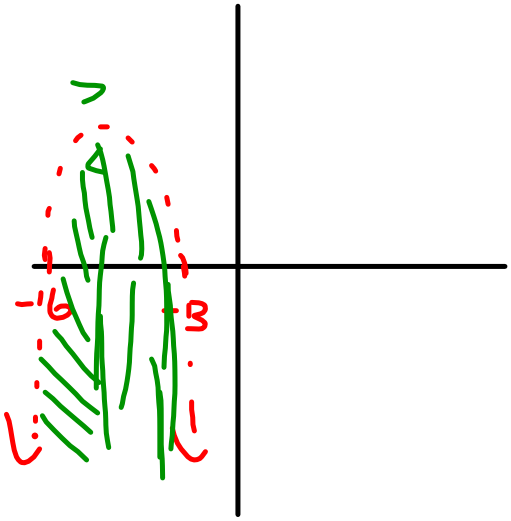
$y = -x^2 + 9x + 18$



$y \geq -x^2 + 9x + 18$



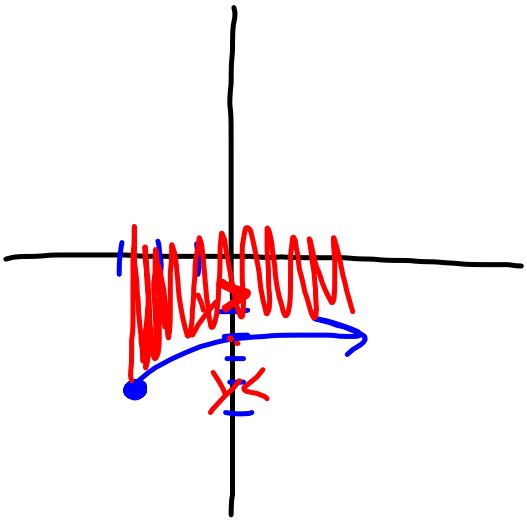
$y < -x^2 + 9x + 18$



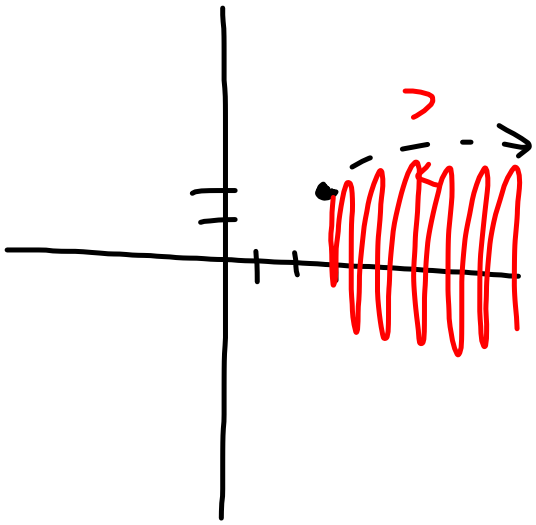
Nov 19-9:45 AM

$y \geq \sqrt{x+3} - 5$

left 3 down 5



$y < \sqrt{x-3} + 2$



SAME $y = \frac{1}{1} = 1$

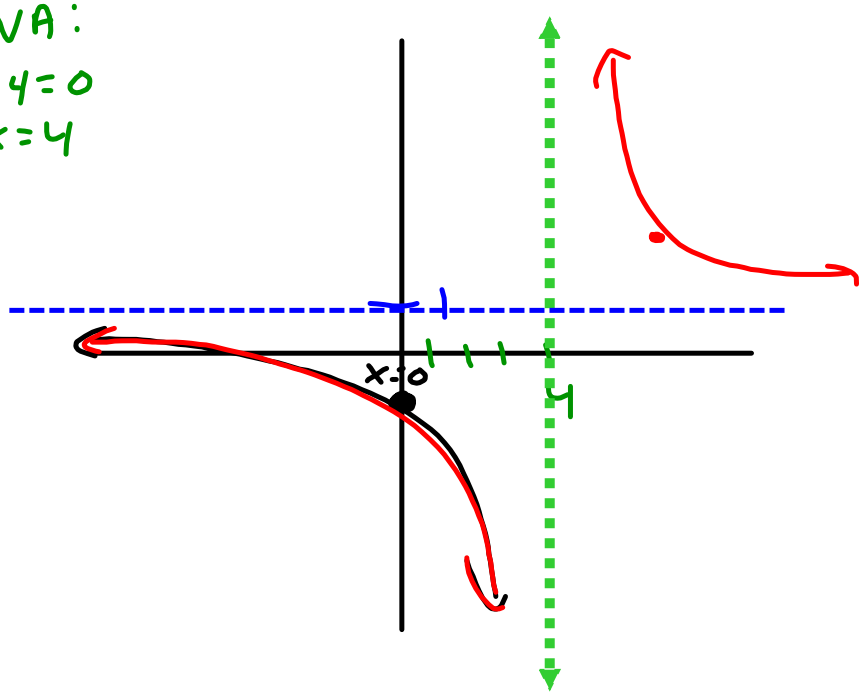
$$y = \frac{x+3}{x-4}$$

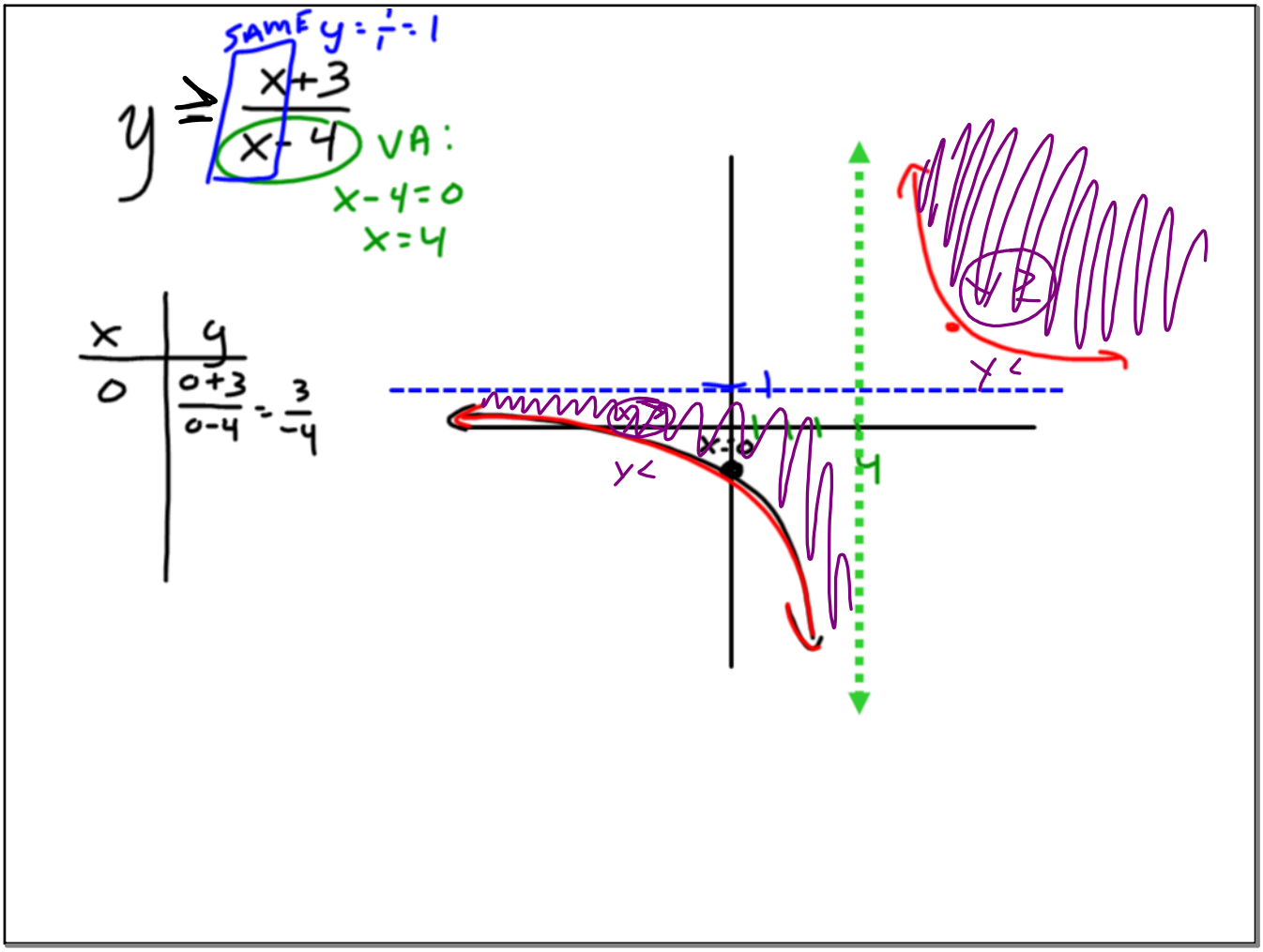
VA:

$x - 4 = 0$

$x = 4$

x	y
0	$\frac{0+3}{0-4} = \frac{3}{-4}$

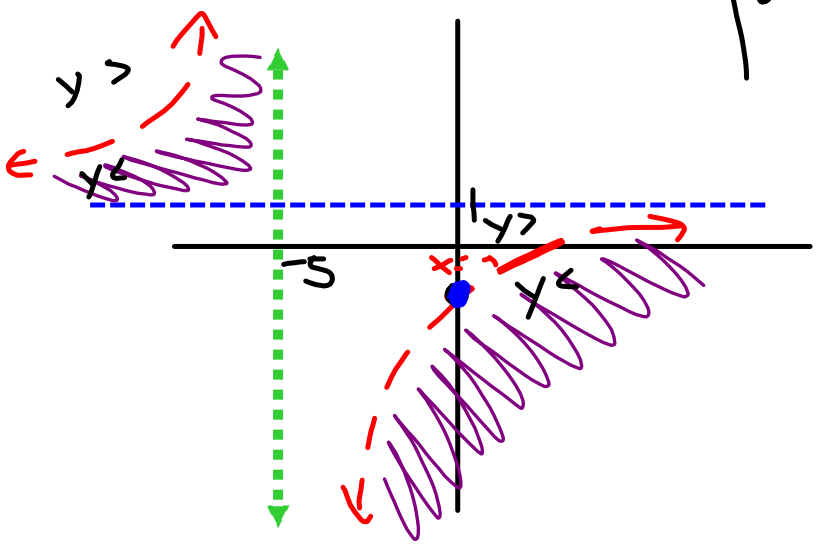



SAME y = 1/1 = 1
y ≥ (x+3)/(x-4)
VA:
x-4=0
x=4
x | y
0 | (0+3)/(0-4) = 3/-4
y=1
y<
y≥
x=0
x=4

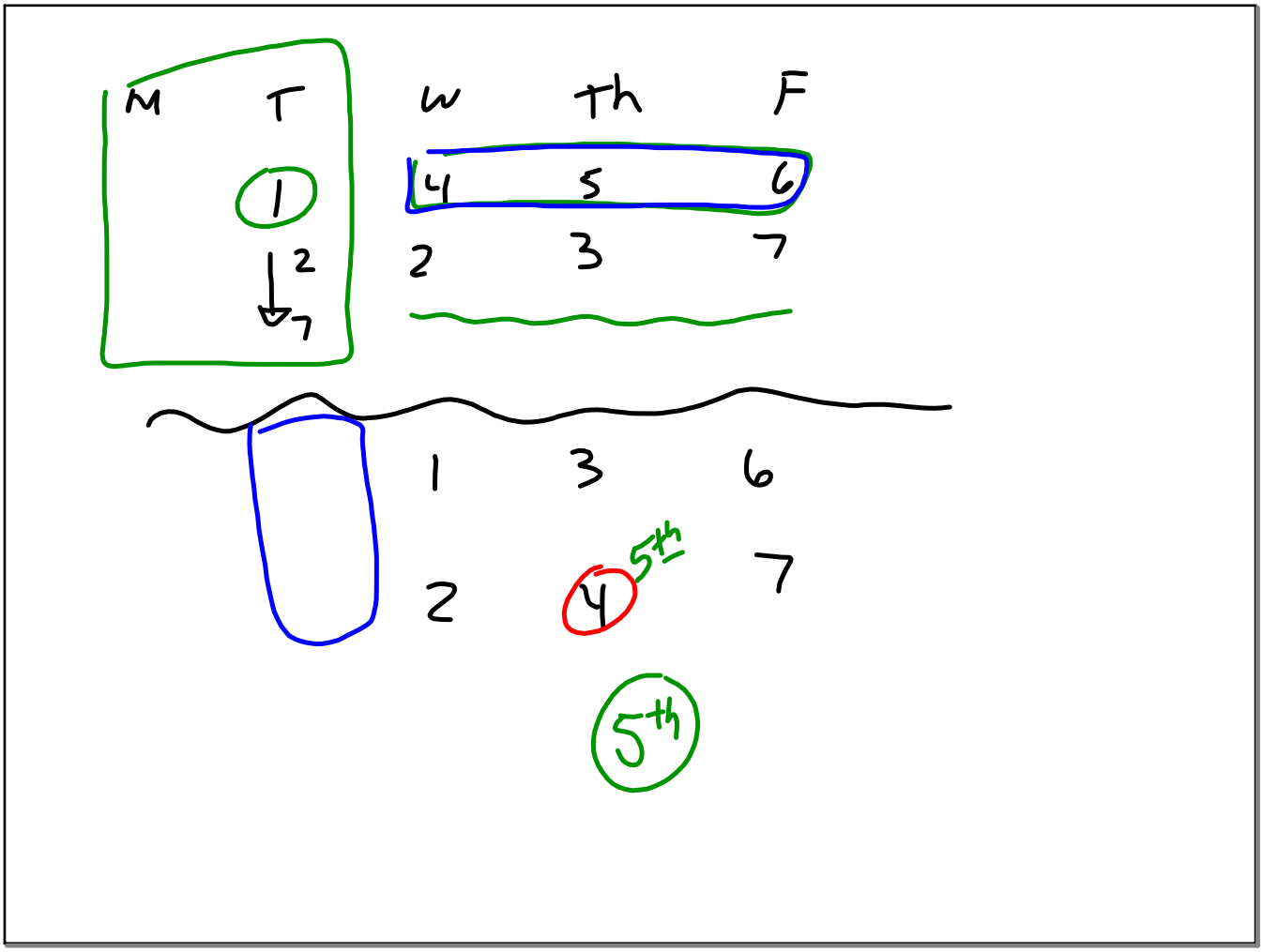
$y < \frac{x-2}{x+5}$ HA $y = 1$

VA: $x = -5$

x	y
0	$\frac{0-2}{0+5} = \frac{-2}{5}$



Nov 19-9:59 AM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7
5th

Radicals

$\sqrt{-3} = i\sqrt{3}$

$\sqrt{-2} = i\sqrt{2}$

$\sqrt{-1} = i\sqrt{1} = i$

} imaginary

$\sqrt{x}$

$\sqrt{0} = 0$

$\sqrt{1} = 1$

$\sqrt{2} = 1.41$

} "real"

≥ 0

Nov 19-12:24 PM

$(\sqrt{x-4})^2 \leq (5)^2$

means that $\sqrt{\ }$ is positive

$x-4 \geq 0$

$x \geq 4$

$x-4 \leq 25$

$x \leq 29$

$[4, 29]$

$$\left(\sqrt{2x-4}\right)^2 \geq (5)^2$$

must be positive

$2x - 4 \geq 25$

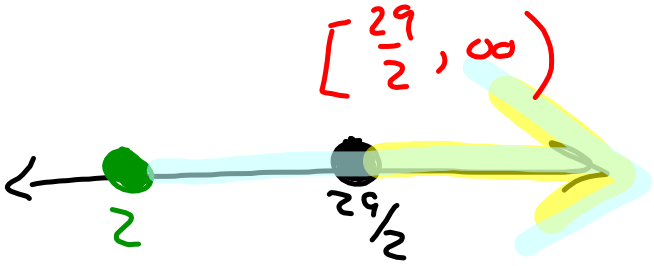
$2x \geq 29$

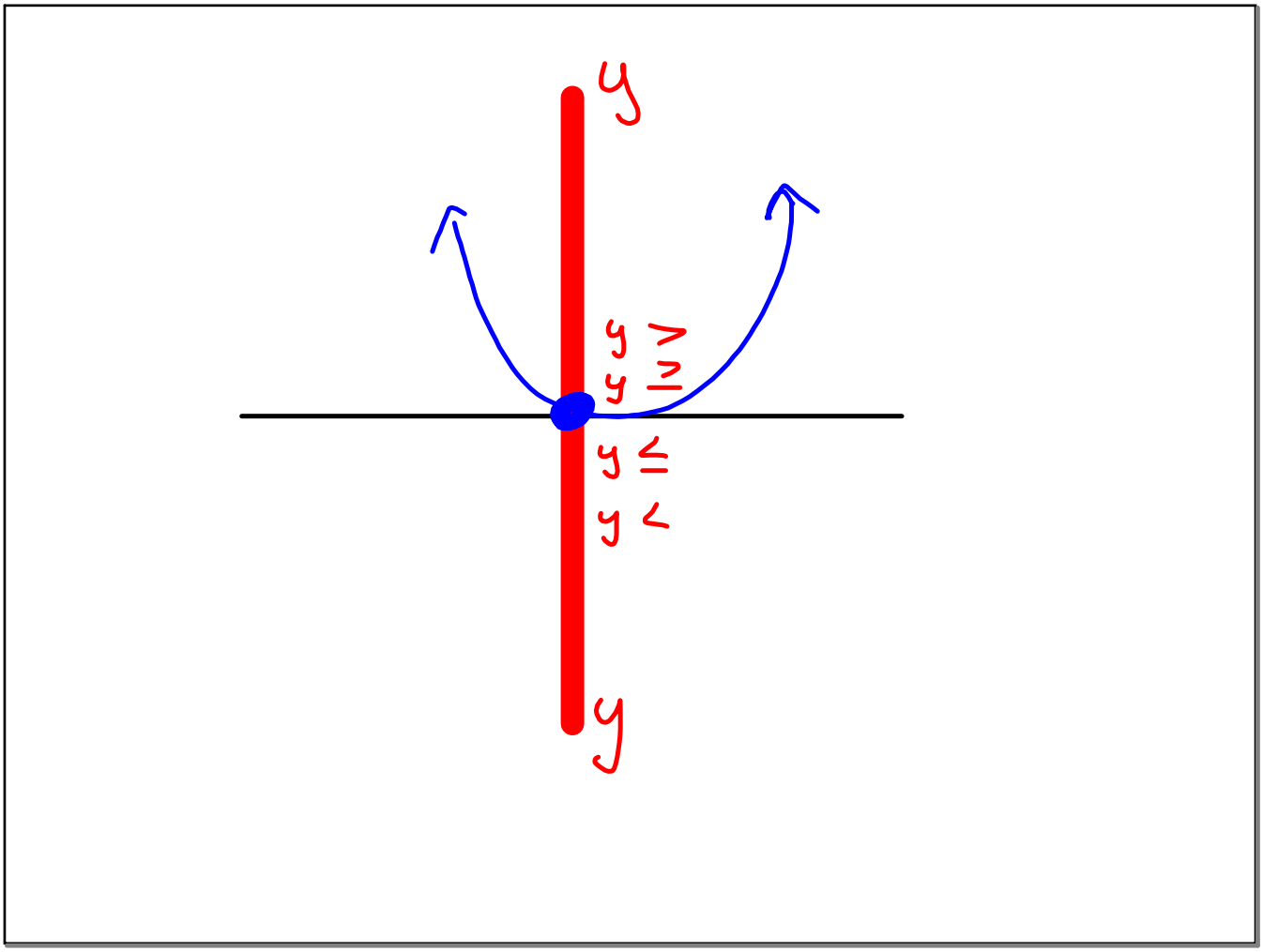
$x \geq \frac{29}{2}$

$2x - 4 \geq 0$

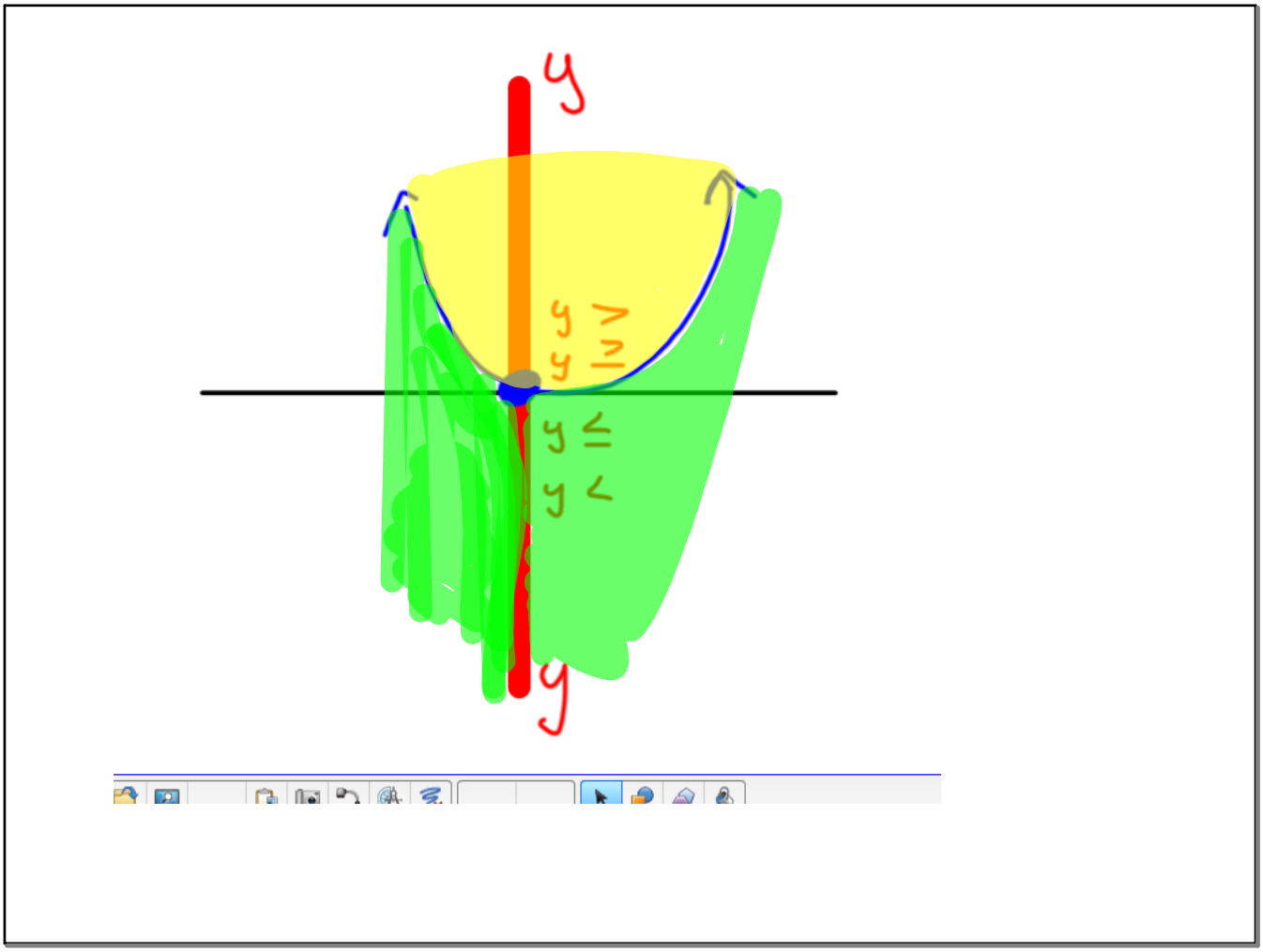
$2x \geq 4$

$x \geq 2$





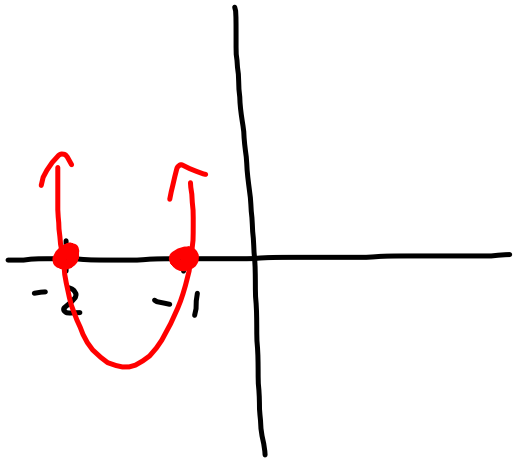
Nov 19-12:37 PM



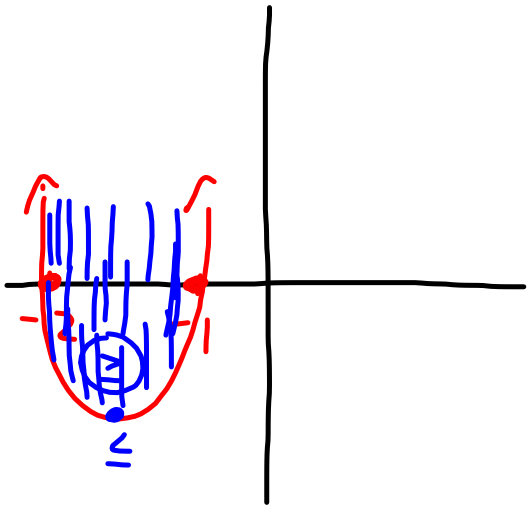
Nov 19-12:40 PM

$y = x^2 + 3x + 2$

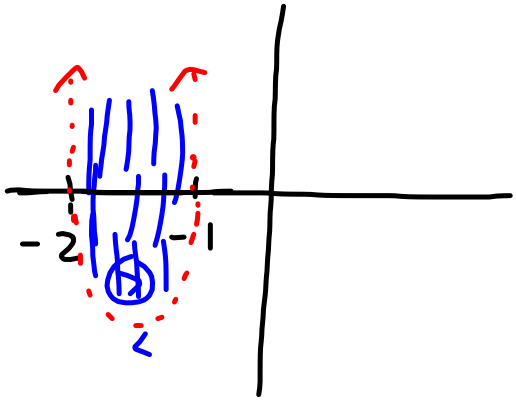
$(x+1)(x+2)$



$y \geq x^2 + 3x + 2$



$y > x^2 + 3x + 2$

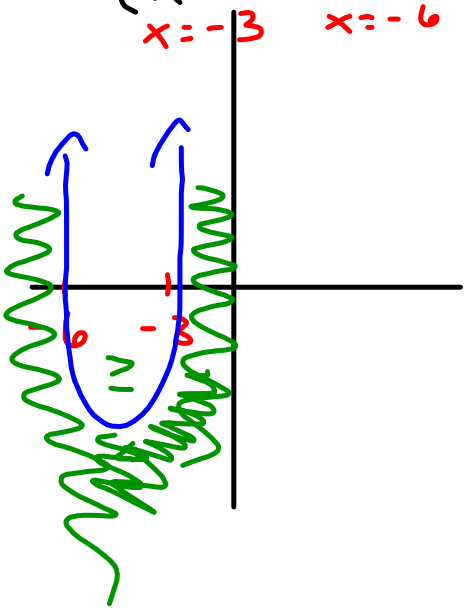


Nov 19-12:42 PM

$y \leq x^2 + 9x + 18$

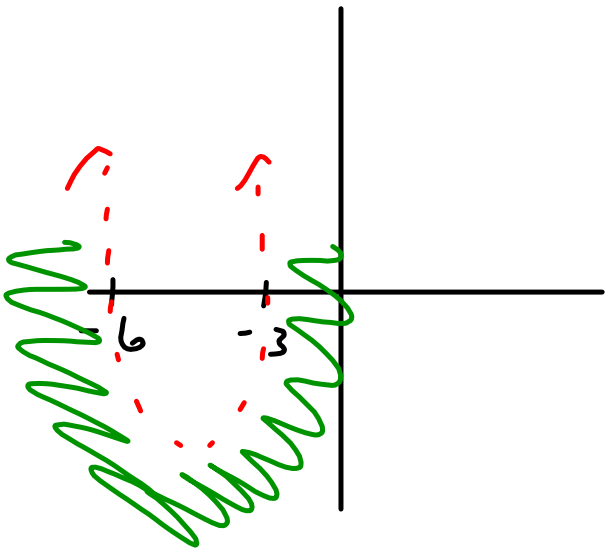
$(x+3)(x+6)$

$x = -3 \quad x = -6$



$y < x^2 + 9x + 18$

$x = -3 \quad x = -6$



Nov 19-12:46 PM

$y \geq -x^2 + 7x + 12$

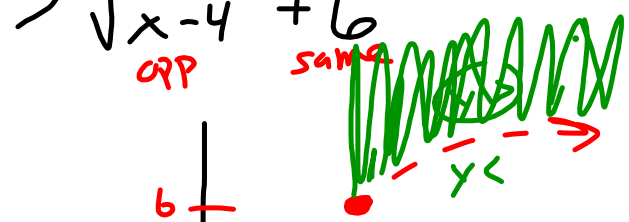
$x = -3 \quad x = -4$

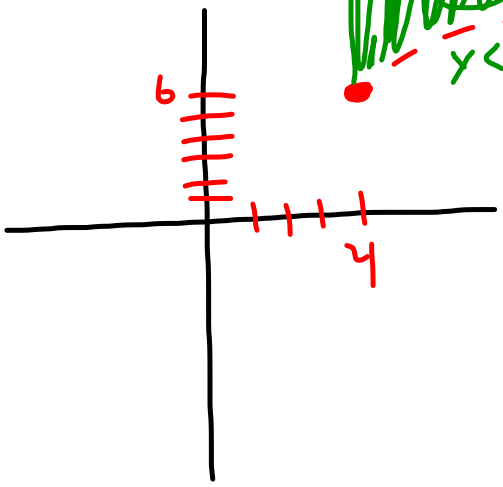
$(x+3)(x+4)$

Nov 19-12:51 PM

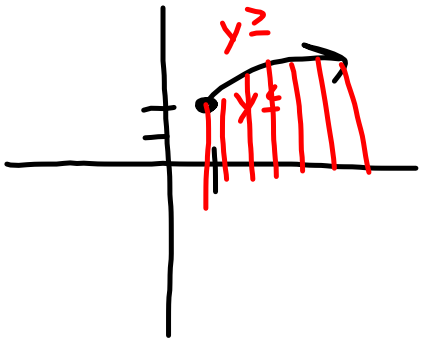
$y > \sqrt{x-4} + 6$

opp same





$y \leq \sqrt{x-1} + 2$



highest degree $y = \frac{1}{1} = 1$

$$y = \frac{x+4}{x-3}$$

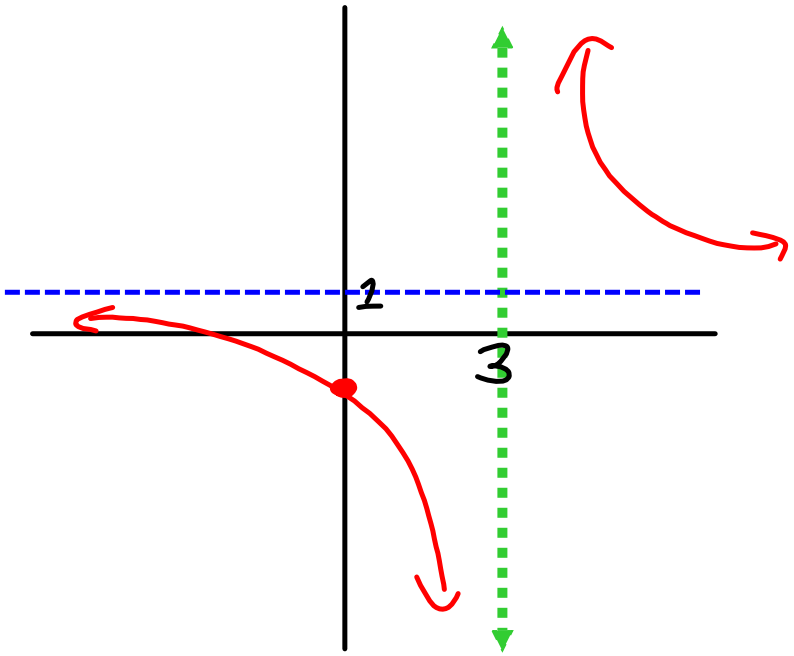
VA:

$x - 3 = 0$

$x = 3$

Test pt.

x	y
0	$\frac{0+4}{0-3} = \frac{4}{-3}$



highest degree $y = \frac{1}{1} = 1$

$y \geq \frac{x+4}{x-3}$

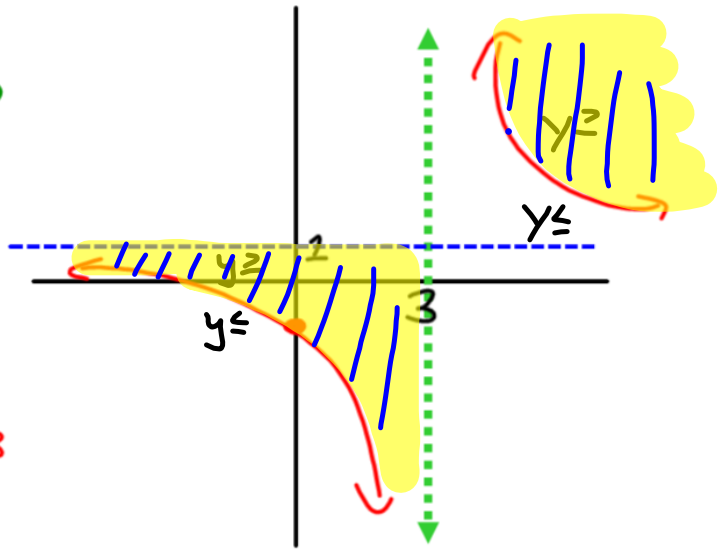
VA:

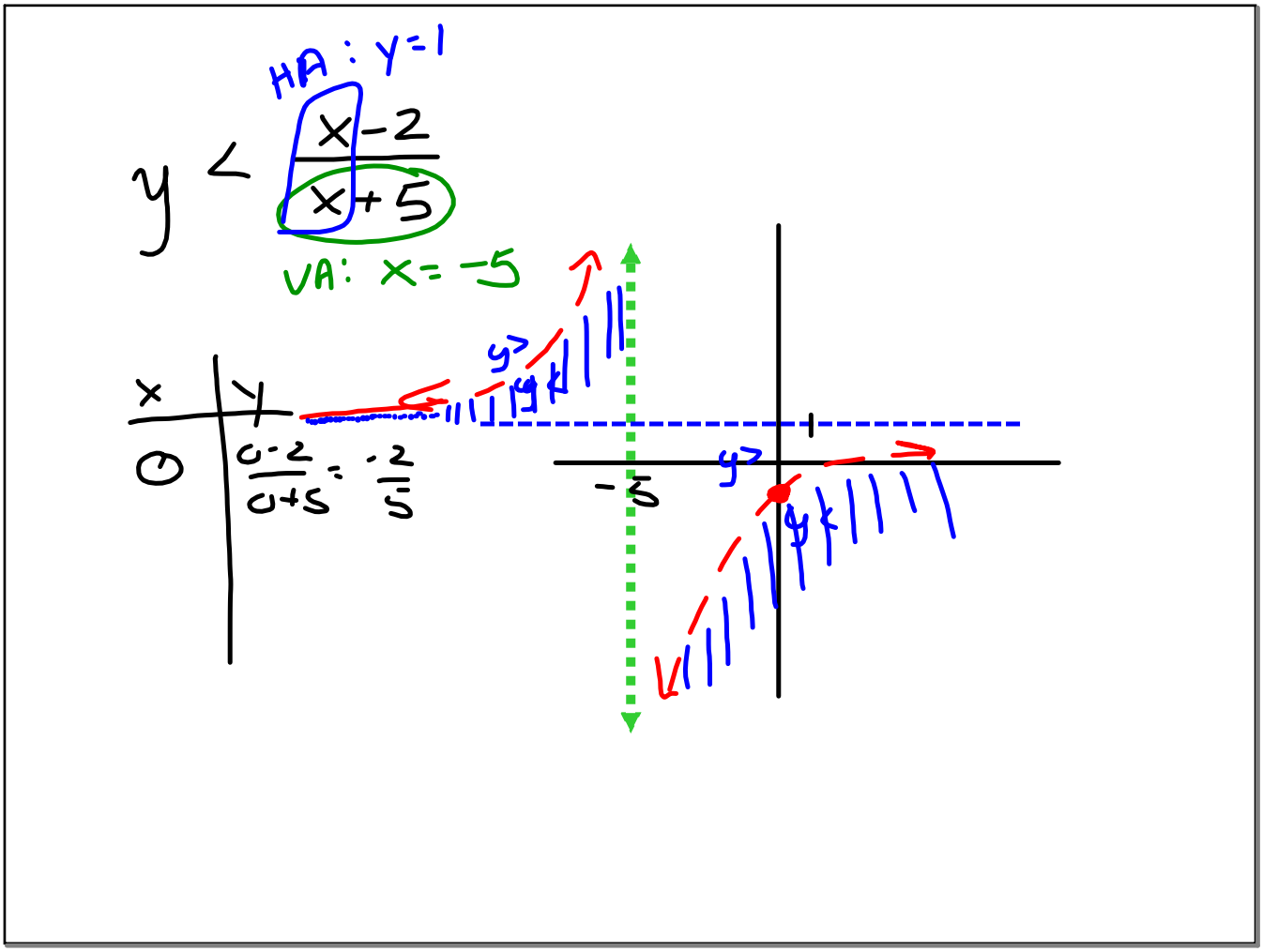
$x - 3 = 0$

$x = 3$

Test pt.

x	y
0	$\frac{0+4}{0-3} = \frac{4}{-3}$





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