$y \leq x^2 - 6x + 8$

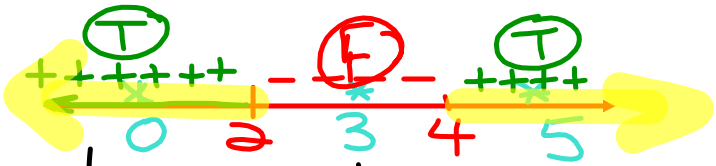
$0 = (x-4)(x-2)$

$x = 4, 2$

1) find zeros
factor
quad. form.

2) Plot zeros on # line

3) test regions in the original



$x=0$
$0 \leq 8$
true

$0 \leq 9 - 18 + 8$
$0 \leq 17 - 18$
$0 \leq -1$
false

$0 \leq 25 - 30 + 8$
$0 \leq 3$
TRUE

$x \leq 2$ OR $x \geq 4$

$0 \geq 2x^2 - 4x + 1$

1) Find zeros

$a = 2 \quad b = -4 \quad c = 1$

$$x = \frac{4 \pm \sqrt{16 - 4(2)(1)}}{4}$$

$$x = \frac{4 \pm \sqrt{8}}{4}$$

$0 \geq 2x^2 - 4x + 1$

False | TRUE | False

$\frac{4-\sqrt{8}}{4}$ (.29) $\frac{4+\sqrt{8}}{4}$ (1.1)

either

$$x > \frac{4-\sqrt{8}}{4} \text{ and } x < \frac{4+\sqrt{8}}{4}$$

form $\frac{4-\sqrt{8}}{4} < x < \frac{4+\sqrt{8}}{4}$

21. $x^2+8x+16 \geq 0$

$x = \frac{-8}{2} = -4$

$y = (-4)^2+8(-4)+16$

$y = 16-32+16$

$y = 0$

$V(-4,0)$

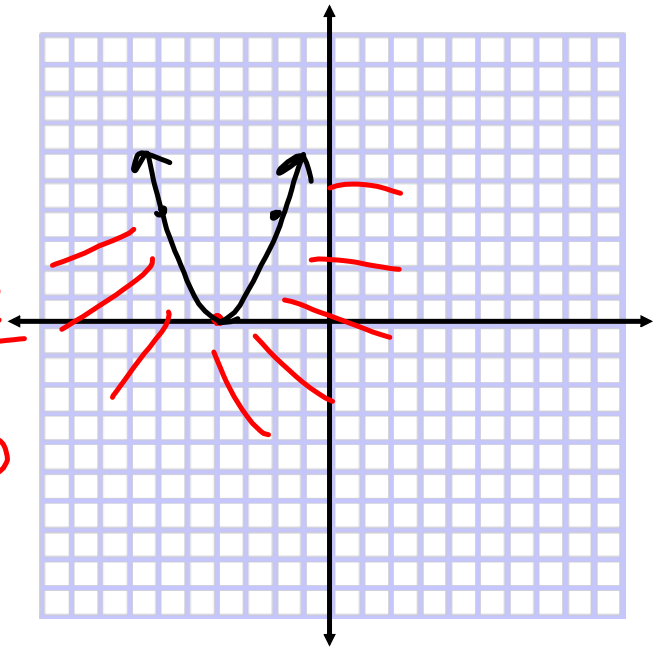
x	y
-2	4

shade?

(0,0)

$0 \geq 0$

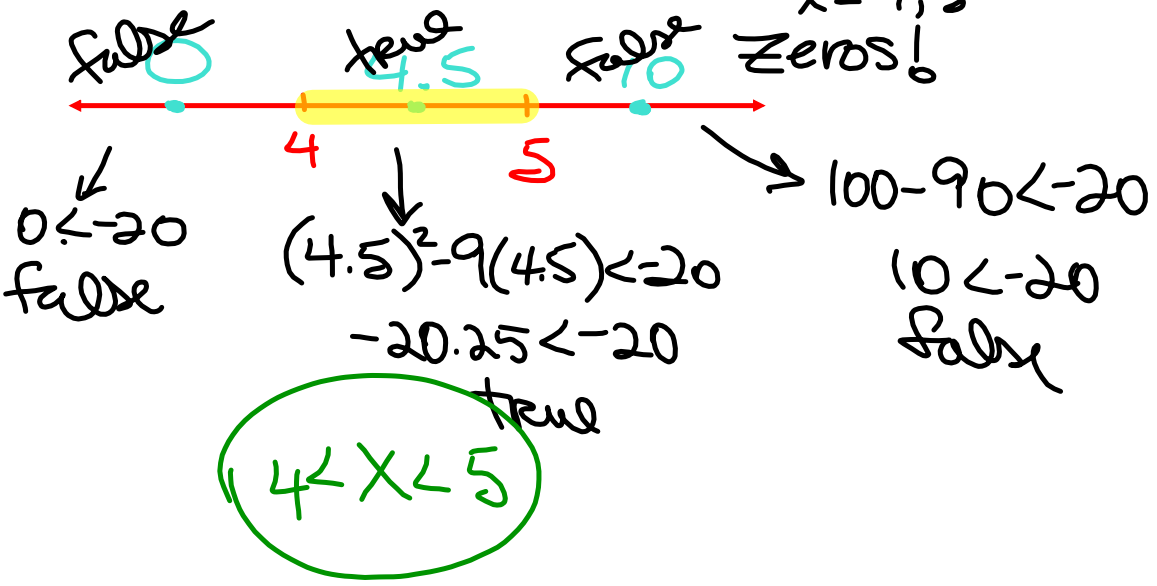
TRUE



33. $x^2 - 9x < -20 \Rightarrow x^2 - 9x + 20 = 0$

$(x-5)(x-4)=0$

$x = 4, 5$



$4 < x < 5$

30) $-2x^2+3x+3 \leq 0$

$a=-2 \quad b=3 \quad c=3$

$$x = \frac{-3 \pm \sqrt{3^2-4(-2)(3)}}{2(-2)}$$

$$x = \frac{-3 \pm \sqrt{33}}{-4}$$

$-.69, 2.18$

$\frac{-3+\sqrt{33}}{-4}$ $\quad$ $\frac{-3-\sqrt{33}}{-4}$

$-2(1)+3+3 \leq 0$

$-2 \leq 0$

$-2(9)+9+3 \leq 0$

$-18+12 \leq 0$

$3 \leq 0$

final answer $x \leq \frac{-3+\sqrt{33}}{-4}$ OR $x > \frac{-3-\sqrt{33}}{-4}$