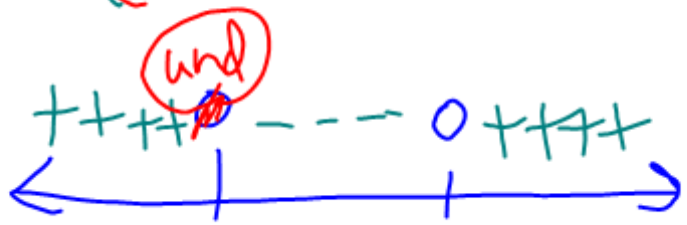
11. $3x^2 + 10x - 8 \leq 0$

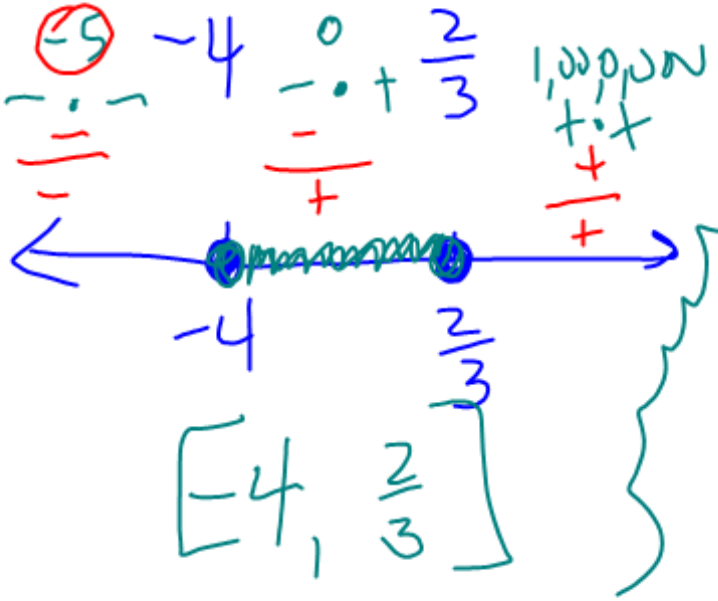
Solve & graph

$(3x-2)(x+4) \leq 0$

1) must have zero on one side

2) find zeros





$x = \frac{2}{3}$ $x = -4$

Critical #'s

$\frac{3x-2}{x+4} \leq 0$

Zeros: $x = 2/3$

Undefined: $x \neq -4$

$(-4, 2/3]$

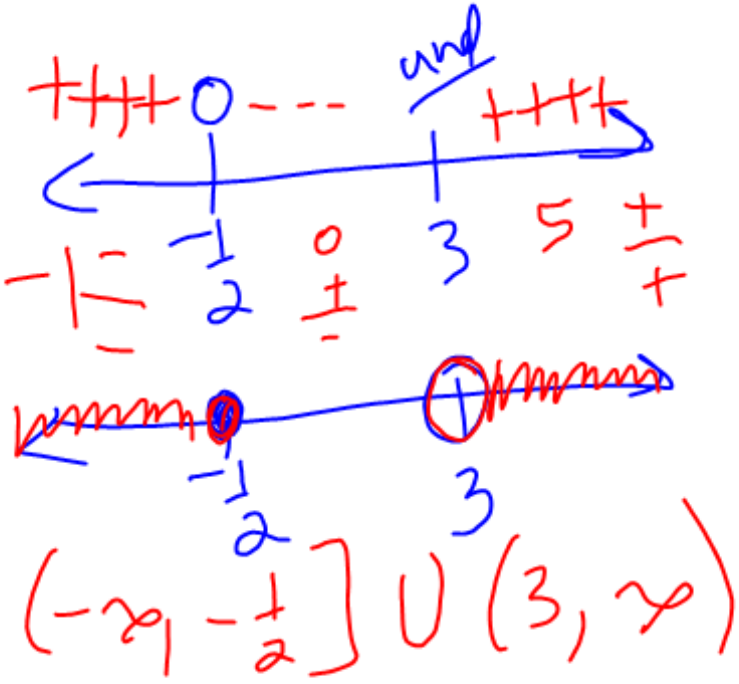
$$\frac{2x+1}{x-3} \geq 0$$

Solve & graph

1) make sure zero is on one side
2) find critical

zeros: $x = -\frac{1}{2}$

und: $x \neq 3$



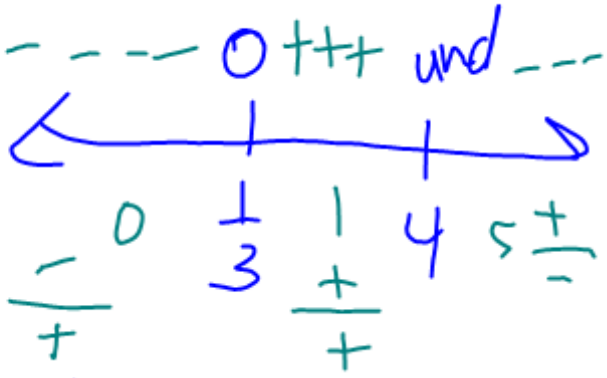
$$\frac{3x-1}{4-x} \leq 0$$

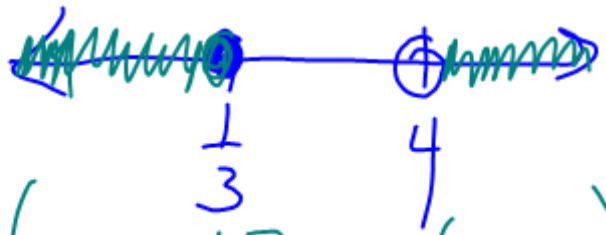
Solve & graph

critical #'s

zero $x = \frac{1}{3}$

und $x \neq 4$





$(-\infty, \frac{1}{3}] \cup (4, \infty)$

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

$$\frac{x+1}{x+3} - \frac{2(x+3)}{1(x+3)} \leq 0$$

$$\frac{x+1}{x+3} + \frac{-2x+6}{x+3} \leq 0$$

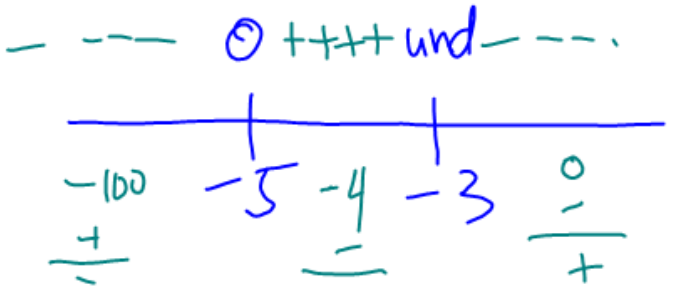
$$\frac{-x-5}{x+3} \leq 0$$

$$\frac{x+1}{x+3} = 2$$

$$\frac{x+1}{-2x+3} - 2 = 0$$

zero = $x = -5$

undefined = $x \neq -3$



$(-\infty, -5] \cup (-3, \infty)$

$$\frac{1}{x-3} \leq 1$$

solve & graph

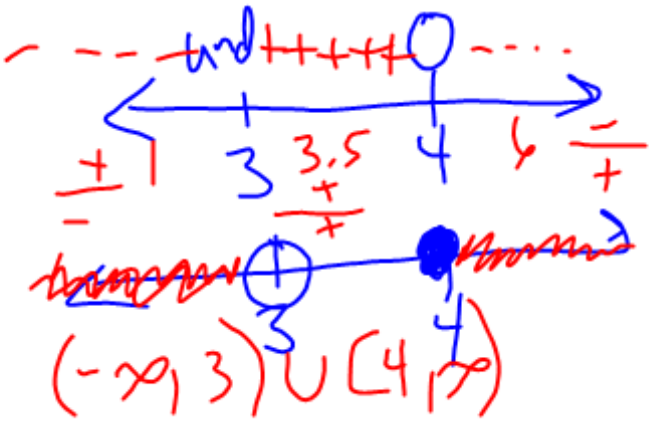
$$\frac{1}{x-3} + \frac{-(x-3)}{(x-3)} \leq 0$$

zero $x = 4$

und: $x \neq 3$

$$\frac{1}{x-3} + \frac{-x+3}{x-3} \leq 0$$

$$\frac{-x+4}{x-3} \leq 0$$



$$\frac{3}{x+3} \geq \frac{3}{x-2}$$

Solve & graph

$$\frac{3(x-2)}{x+3(x-2)} - \frac{3(x+3)}{x-2(x+3)} \geq 0$$

$$\frac{3x-6}{(x+3)(x-2)} + \frac{-3x-9}{(x+3)(x-2)} \geq 0$$

$$\frac{-15}{(x+3)(x-2)} \geq 0$$

Zeros (none)

Und. $x \neq -3$

$x \neq 2$