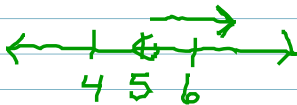


## Solving a Linear Inequality

$$\text{Ex 1: } 3x + 5 > 10$$

$$\text{open } >, < \quad \frac{3x}{3} > \frac{15}{3}$$

$$\boxed{x > 5}$$

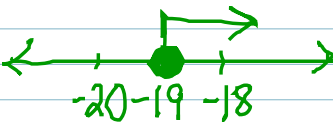


$$\text{Ex 2: } -4x + 3x + 2 \leq 21$$

$$-1x + 2 \leq 21$$

$$\frac{-1x}{-1} \leq \frac{19}{-1}$$

$$\boxed{x \geq -19}$$



$\geq, \leq$   
closed  
circle

Switch  
symbol \*

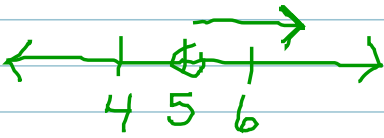
# Solving a Linear Inequality

$$\text{Ex 1: } 3x + 5 > 10$$

open  $>$ ,  $<$

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$$x > 5$$



$$\text{Ex 2: } -4x + 3x + 2 \leq 21$$

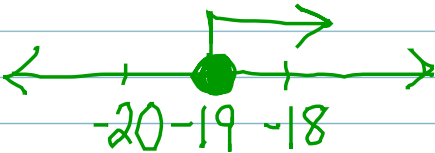
$$\frac{-1x + 2}{-2} \leq \frac{21}{-2}$$

$\geq$   $\leq$   
closed  
circle

Switch  
symbol \*

$$\frac{-1x}{-1} \leq \frac{19}{-1}$$

$$x \geq -19$$



$$\text{Ex 3: } 4(2x + 5) < -21$$

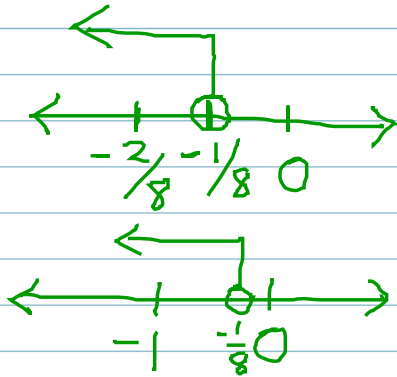
$$4(2x) + 4(-5) < -21$$

$$8x + -20 < -21$$

$$\frac{+ 20 \quad + 20}{\phantom{8x} \phantom{<} \phantom{-21}}$$

$$\frac{8x}{8} < \frac{-1}{8}$$

$$x < -\frac{1}{8}$$



$$\text{Ex 4: } \frac{m}{-2} + 5 \geq 11$$

*x!* with same neg#  
switch symbol \*

$$\frac{-5 \quad -5}{\phantom{m} \phantom{\geq} \phantom{6} \phantom{\cdot} \phantom{-2}}$$

$$\frac{1}{-2} \cdot \frac{m}{-2} \geq 6 \cdot -2$$

$$m \downarrow -12$$

$$m \leq -12$$

