

T-A1 Algebra 1

TOMB merch is flying off the shelves! The last TOMB beanie left in an Amazon truck going slow  $45 \text{ mi/hr}$ . An hour later, feeling indescribable loss and regret, Amber chases after the truck going  $60 \text{ mi/hr}$ . How long until Amber catches the truck?

$$45(t+1) = 60t$$

$$45t + 45 = 60t$$

$$\begin{array}{r} 45t + 45 = 60t \\ -45t \phantom{+ 45} = -45t \end{array}$$

$$\frac{45}{15} = \frac{15t}{15} \quad t = 3$$

slow rate      head start time (hr)      fast

Relative Rate  $\longrightarrow$  subtract

$$60 \text{ mi/hr} - 45 \text{ mi/hr} = 15 \text{ mi/hr}$$

Head start distance  $(45 \text{ mi/hr})(1 \text{ hr}) = 45 \text{ miles}$

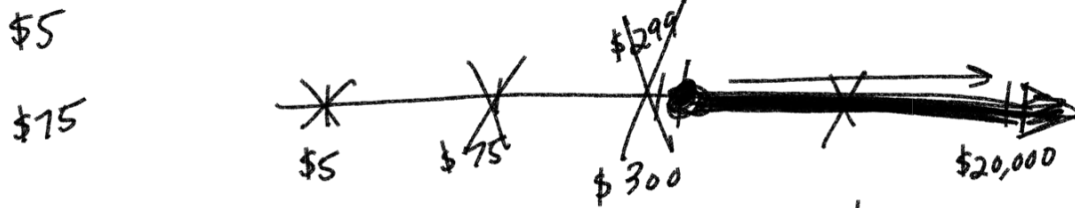
$$\frac{\text{head start distance}}{\text{relative rate}}$$

$$\frac{45}{15} = 3$$

# 3-1 Inequalities and their Graphs

At least \$300  $\boxed{\text{bigger}}$   $(M) \geq \$300$  smaller

Bigger  $\triangleleft$  Smaller



bigger smaller  
 $X > 3$

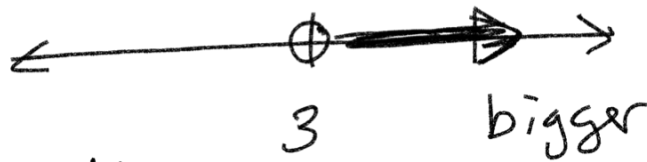
bigger greater than

less than left than

$>$   $<$

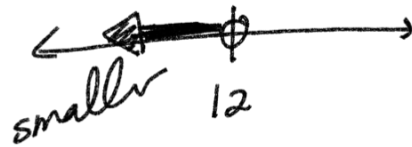
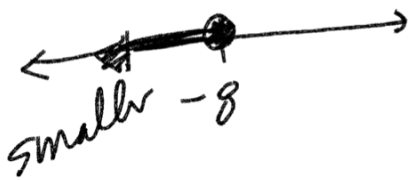
$\geq$   $\leq$

I want cheap poofs!



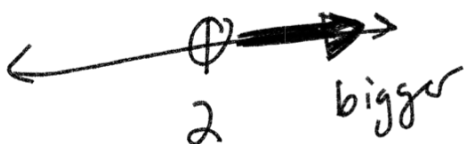
smaller bigger  
 $X \leq \boxed{-8}$

$12 > x$  smaller



bigger  $y > 2$

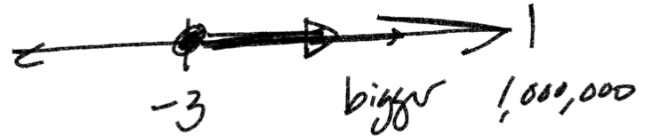
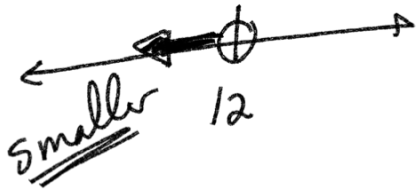
$-9 \leq a$  bigger



bigger  
 $12 \geq \textcircled{x}$  smaller

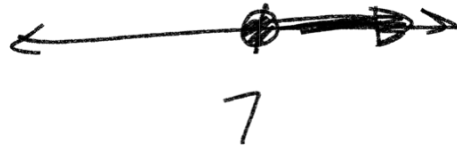
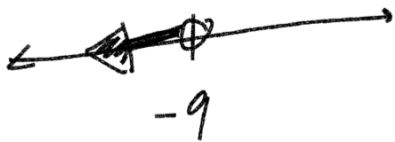
$>$   
 $<$   
 $\geq$   
 $\leq$   
●

bigger  
 $x \geq -3$



$$x < -9$$

$$7 \leq x$$



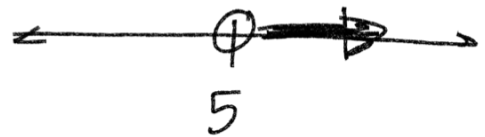
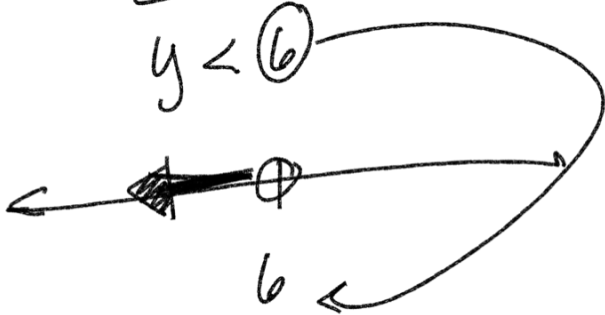
$$y \begin{array}{|l} -2 \\ +2 \end{array} < 4$$

$$y \begin{array}{|l} -2 \\ +2 \end{array} = 4$$

$$\begin{array}{r} 7 < w + 2 \\ -2 \quad -2 \\ \hline 5 < w \end{array}$$

$$y < \textcircled{6}$$

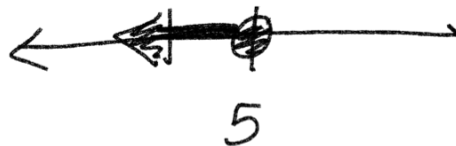
$$y = 6$$



$$x - 4 \leq 1$$

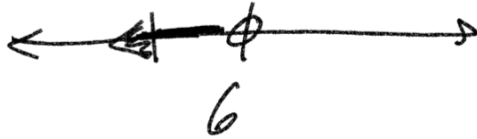
$$+4 \quad +4$$

$$x \leq 5$$



$$\frac{4x}{4} < \frac{24}{4}$$

$$x < 6$$

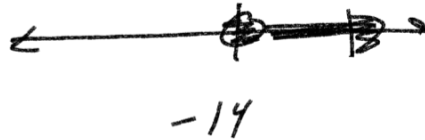


Bars  
closed

No  
open  
bar!

$$7\left(\frac{x}{7}\right) \geq (-2)7$$

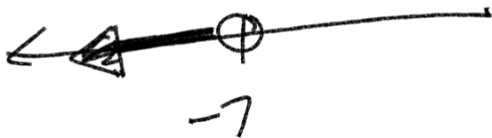
$$x \geq -14$$



$$\frac{-3x}{-3} > \frac{21}{-3}$$

flip

(x < -7)



You must flip  
inequality when  
you multiply or  
divide by a  
negative!

Ch 2 Test

due as soon as  
you feel comfortable

12/22

HW

- Ch 3-1 events
- 3-2 events
- 3-3 events

Supplemental

Online HW 13 (this week)  
Quiz 13 (this week)  
due January 12<sup>th</sup>

