Chapter 3 Inequalities

$<, \leq, >, \geq, \neq, \ldots$

we will mainly use these four inequalities

How do you say this? $w > 9$

w is greater than 9 or 9 is less than w

How do you say this? $-11 \geq T$

-11 is greater than or equal to T or T is less than or equal to -11

When saying an inequality it is better to start with the variable, whichever side it is on.

How do you say this? $<$

It depends on the direction you read it!

If you read from left to right you would say

Less Than

If you read from right to left you would say

Greater Than

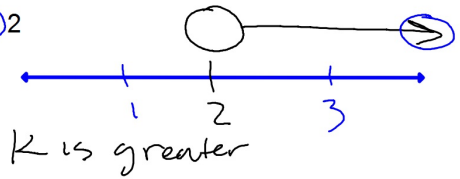
An inquality always points to the smaller number.

Smaller Number $<$ Bigger Number

Bigger Number $>$ Smaller Number

Graph each inequality on a number line:

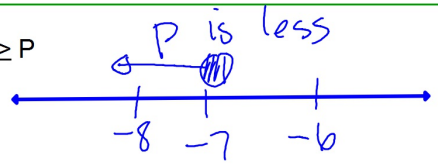
1. K > 2



K is greater

3 > 2

2. -7 ≥ P



P is less

-7 ≥ -8

Write an inequality to model each statement.

3. There needs to be at least 12 interested students to start an art club.

$S \geq 12$

4. The maximum number of people allowed in the restaurant is 150.

$P \leq 150$

5. Alan can get no more than 3 wrong to get an A.

$W \leq 3$

6. The minimum amount you must have in your bank account so that you won't get charged a fee by the bank is $100.

$\$ \geq 100$

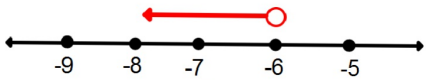
7. The truck can tow up to 2500 lbs.

UP TO BUT NOT BEYOND

$T \leq 2500$

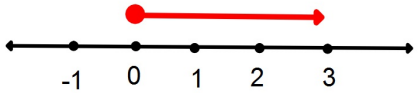
Model each graph with an inequality.

8.



$B < -6$

9



$Q \geq 0$

Use this Inequality: $4x - 15 > -3$

Is each of the below a solution to this inequality?

a. 7 — Yes

$4(7) - 15$

$28 - 15$

$13 > -3$

b. 1 — NO

$4(1) - 15$

$-11 > -3$

c. 3 — NO

$4(3) - 15$

$12 - 15$

$-3 > -3$

d. -5 — NO

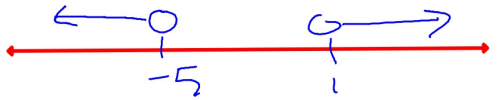
$4(-5) - 15$

$-20 - 15$

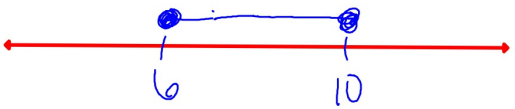
$-35 > -3$

graph on a number line:

all values such that $x < -5$ or $x > 1$



all the values such that $x \geq 6$ and $x \leq 10$



You can now finish Hwk #14.

Due tomorrow

Sec 3-1

Pages 136-138

Problems 9, 10, 20, 22, 23, 31-35, 37, 38, 40, 51, 72