

**Warm Up** – Match each symbol to the correct words...

- |                    |           |                             |
|--------------------|-----------|-----------------------------|
| 1. $<$ <b>B</b>    | $0 < 100$ | A. Equal to                 |
| 2. $>$ <b>D</b>    |           | B. Less than                |
| 3. $=$ <b>A</b>    |           | C. Less than or equal to    |
| 4. $\leq$ <b>C</b> |           | D. Greater than             |
| 5. $\geq$ <b>E</b> |           | E. Greater than or equal to |

Inequalities:

$<$	$>$	$\leq$	$\geq$
less than	greater than	less than or equal to	greater than or equal to
Example: $24 < 60$	Example: $60 > 24$	Example: $100 \leq 100$	Example: $100 \geq 90$
$-5 < -1$	$-6 > -8$	$100 \leq 101$	$-400 \geq -800$
		$-5 \leq -1$	$-400 \geq -400$

**Ex. 1:** Write in words what each inequality means.

- |   |  |
|---|--|
| <b>A.</b> $10 < 15$<br>10 is less than 15                 | <b>C.</b> $-5 \leq 4$<br>-5 is less than or equal to 4 |
| <b>B.</b> $20 \geq 3$<br>20 is greater than or equal to 3 | <b>D.</b> $-3 > -4$<br>-3 is greater than -4           |

**Ex. 2:** Using the words, write an inequality that represents it.

- A.** X is less than 7  
 $X < 7$       5, 4, 3      3 possible answers
- B.** Y is greater than or equal to 25  
 $Y \geq 25$       25, 26, 27
- C.** Z is less than or equal to -9  
 $Z \leq -9$       -10, -11, -50  
-10  
-8

At Most	$\leq$
At Least	$\geq$
No More than	$\leq$
No Less than	$\geq$
Less than	$<$
Only Have	$\leq$
Greater than	$>$
More than	$>$

Mom, I need \_\_\_\_\_ \$100.  
at least  
at most

→ You only have \$100 for groceries.

**Ex. 3:** Write an inequality to represent each of the following.

- A.** Sam has more than 5 video games.  $S > 5$
- B.** Jose needs a least \$50 for the store.  $J \geq 50$
- C.** Julia only has \$35 for groceries.  $J \leq 35$
- D.** Payton has at most 60 minutes to spend on homework.  $P \leq 60$

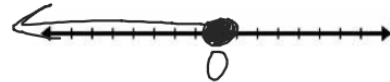
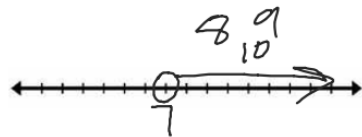
Write and Graph Inequalities

Graphing Inequalities:

- Put a circle and ● if it is = to ( $\leq$  or  $\geq$ )  
○ if it is not = to ( $<$  or  $>$ )
- Put an arrow  $>$   $\rightarrow$   $<$   $\leftarrow$  *\* The variable must be on the left !!*

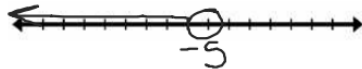
Ex 4:  
Graph  $x > 7$

Graph  $w \leq 0$



Graph  $g < -5$

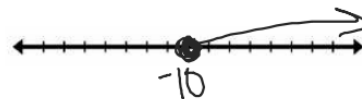
Graph  $z \geq 100$



Graph  $15 < x$

Graph  $h \geq -10$

$x > 15$



Graph  $2x < 6$

Graph  $20 \geq x$      $x \leq 20$

