Warm Up:
Solve each equation.

\[ 5x + 11 = 4 \]
\[ 2(x - 2) = 3(x + 3) \]

ACT Question:
Which of the following is an irrational number?

A.) \( \sqrt[3]{100} \)
B.) \( \sqrt{\frac{1}{4}} \)
C.) \( \sqrt{16} \)
D.) \( \sqrt{81} \)
E.) \( \sqrt{99} \)

Vocabulary:
Solution of an inequality: is any number that makes the inequality true.

Inequality Signs:
Greater Than \( > \)
Less Than \( < \)
Greater than or EQUAL to \( \geq \)
Less than or EQUAL to \( \leq \)
Examples 1 and 2:
Write an inequality that represents each verbal expression.

is greater than

is less than or equal to

Examples 3 and 4:
Write an inequality that represents each verbal expression.

more than

is greater than or equal to

The quotient of

is less than

Examples 5 and 6:
Determine whether each number is a solution of the given inequality.

a.) 2   b.) 10

a.) -1   b.) 8   c.) 10

Examples 7 and 8:
Graph each inequality.

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Examples 9 and 10:
Graph each inequality.

(with your shoulder buddy)

Essentials:
In real-world inequalities - we see words like "at least" and "at most"

If you see
AT MOST \( \leq \)

Examples 11 and 12:
Define a variable and write an inequality to model each situation.

No people may use the treadmills at any time in the gym.

To train for a marathon, a runner decides that she must run miles each day.

Examples 13 and 14:
Write an inequality for each graph.
Summary

What symbol does at most mean?

When do I put a closed dot on the graph?
   An open dot?