

Inequality Word Problems Worksheet Questions and Answers PDF

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Part 1: Building a Foundation

Which symbol represents "greater than or equal to"?

Hint: Think about the symbols used in inequalities.

- <</p>
 >
 ≤
- The correct symbol for 'greater than or equal to' is ' \geq '.

Which of the following are true about inequalities? (Select all that apply)

Hint: Consider the properties and characteristics of inequalities.

☐ They can be represented on a number line. ✓

They always have a single solution.

 \Box They use symbols like < and >. \checkmark

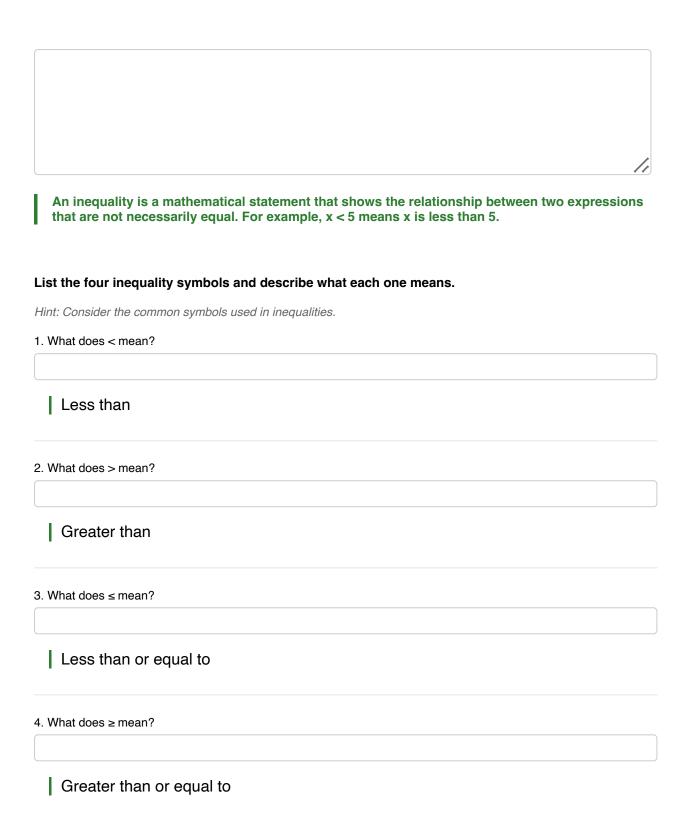
They represent relationships where two expressions are equal.

Inequalities can be represented on a number line and use symbols like < and >.

Define what an inequality is and provide an example using the symbol "<".

Hint: Think about how inequalities express relationships between values.







The four inequality symbols are: 1) < (less than), 2) > (greater than), 3) \leq (less than or equal to), 4) \geq (greater than or equal to).

Part 2: Understanding and Interpretation

If a problem states "at least 10," which inequality symbol should be used?

Hint: Consider what 'at least' implies about the value.

○<

○ >

⊖≤

()≥√

The correct symbol to use is \geq , indicating at least 10 or more.

Which of the following statements can be represented by the inequality x > 5? (Select all that apply)

Hint: Think about the meaning of the inequality.

x is more than 5. ✓
x is at least 5.
x is greater than 5. ✓
x is fewer than 5.

The statements that can be represented are: x is more than 5 and x is greater than 5.

Explain how you would graph the inequality $x \le 3$ on a number line.

Hint: Consider how to represent the boundary and the direction of the inequality.



To graph $x \le 3$, you would draw a closed circle on 3 and shade to the left to indicate all values less than or equal to 3.

Part 3: Application and Analysis

A store sells apples for \$2 each. If you have \$20, what is the maximum number of apples you can buy? Formulate the inequality.

Hint: Think about how to express the total cost in terms of the number of apples.

- $\bigcirc 2x < 20$ $\bigcirc 2x \le 20 \checkmark$ $\bigcirc 2x > 20$
- O 2x ≥ 20

The correct inequality is $2x \le 20$, where x is the number of apples.

Which of the following inequalities correctly represents the statement: "The sum of a number and 7 is less than 15"? (Select all that apply)

Hint: Think about how to express the sum in terms of the variable.

The correct inequality is x + 7 < 15.

Create an inequality to represent the scenario: "A car rental company charges \$50 per day. You have a budget of \$300. How many days can you rent the car?"

Hint: Think about how to express the total cost in terms of the number of days.



The inequality would be $50x \le 300$, where x is the number of days.

Which of the following best describes the solution set for the inequality 3x - 4 > 5?

Hint: Consider how to isolate x in the inequality.

 $\bigcirc x > 3 \checkmark$ $\bigcirc x < 3$ $\bigcirc x > 9/3$ $\bigcirc x < 9/3$

The correct description is x > 3.

Part 4: Evaluation and Creation

Which inequality best represents the scenario: "A basketball team needs to score more than 100 points to win the game"?

Hint: Think about what 'more than' implies.

() x ≥ 100

⊖ x > 100 ✓

O x ≤ 100

○ x < 100

The correct inequality is x > 100.

Evaluate the following inequalities and determine which have the same solution set as x > 2. (Select all that apply)

Hint: Consider the implications of each inequality.

 $x \ge 3$ $x > 1 \checkmark$ $x \ge 2 \checkmark$ $x > 2 \checkmark$

The inequalities that have the same solution set are x > 1 and $x \ge 2$.



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Create a real-world problem that can be solved using the inequality $x + 5 \le 20$. Explain the steps to solve it and interpret the solution.

Hint: Think about a scenario where a limit is imposed.

An example problem could be: 'You have a maximum of \$20 to spend on snacks, and each snack costs \$5. How many snacks can you buy?' The steps involve isolating x and interpreting the result.