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Inequality Word Problems Worksheet

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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.

○ <
○ >
○ ≤
○ ≥

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.
☐ They use symbols like < and >.
☐ They represent relationships where two expressions are equal.

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

Hint: Think about how inequalities express relationships between values.

List the four inequality symbols and describe what each one means.

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Hint: Consider the common symbols used in inequalities.

1. What does < mean?

[   ]

2. What does > mean?

[   ]

3. What does ≤ mean?

[   ]

4. What does ≥ mean?

[   ]

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.

○ <
○ >
○ ≤
○ ≥

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.

Explain how you would graph the inequality x ≤ 3 on a number line.

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

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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.

○ 2x < 20
○ 2x ≤ 20
○ 2x > 20
○ 2x ≥ 20

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.

☐ x + 7 < 15
☐ x + 7 ≤ 15
☐ x + 7 > 15
☐ 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.

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

Hint: Consider how to isolate x in the inequality.

○ x > 3
○ x < 3
○ x > 9/3
○ x < 9/3

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
○ x ≤ 100
○ 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 ≥ 3
☐ x > 1
☐ x ≥ 2
☐ x > 2

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

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

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