Algebra 1

Topic: Solving Multi-Step Inequalities

> **Instructions**
>
> Solve the following multi-step inequalities.
>
> - Perform the necessary operations (addition, subtraction, multiplication, or division) to isolate the variable.
>
> - Remember, if you multiply or divide by a negative number, reverse the inequality sign.
>
> - Check your solution by substituting the value back into the inequality.

Practice Problems

1. $2x - 5 \geq 9$

2. $3x + 4 < 7x - 2$

3. $-5x + 12 \geq 17$

4. $4x - 8 \leq 2x + 4$

5. $6x + 7 > 5x + 12$

6. $-2x + 3 \geq -7$

7. $5x - 3 < 2x + 6$

8. $-3(x - 4) > 9$

9. $3(x + 5) \leq 2x + 15$

10. $4x - 3 \geq 2x + 5$

Multiple Choice Questions

1. Solve: $4x + 5 > 2x + 9$. What is the value of x?

A) 2   C) 3

B) 1   D) 4

2. Solve: $-6x + 7 \leq 5x - 2$. What is the value of x?

A) -1 C) -2

B) 2   D) 1

3. Solve: $3(x - 2) \geq 2x + 6$. What is the value of x?

A) 5   C) 4

B) -5 D) 6

4. Solve: $2(x + 3) < 3x + 6$. What is the value of x?

A) -3 C) -2

B) 0   D) 3

Challenge Problems

1. $-2(3x - 4) + 5 \leq 7x + 9$

2. $6x - 8 \geq 3(x + 4) - 5$

3. $4x + 3 > 2x + 15$

4. $5(x + 3) - 7 \geq 2x + 10$

5. $-7x + 2 < 4x - 10$

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