Interpreting Inequalities

Let's interpret the meaning of situations with phrases like "at least," "at most," and "up to."

3.1 Math Talk: Solving Inequalities

Solve for x mentally.

- $5x < 10$
- $10 > 6x - 2$
- $9x < 5 - 23$
- $11(x - 3) < 46 - 2$

3.2 Checking and Graphing Inequalities

Solve each inequality. Then, check your answer using a value that makes your solution true.

1. $-2x < 4$

2. $3x + 5 > 6x - 4$

3. $-3(x + 1) \geq 13$

For each of the following statements:

- Use a number line to show which values satisfy the inequality.
- Express the statement symbolically with an inequality.

1. The elevator can lift up to 1,200 pounds. Let x represent the weight being lifted by the elevator.



2. Over the course of the senator's term, her approval rating was always around 53%, ranging 3% above or below that value. Let x represent the senator's approval rating.



3. There's a minimum of 3 years of experience needed. Let x represent the years of experience for a candidate that meets this requirement.



3.3 Card Sort: What's the Situation?

Your teacher will give you a set of cards that show a graph, an inequality, or a situation.

1. Sort the cards into groups of your choosing. Be prepared to explain the meaning of your categories.
2. Then sort the cards into groups in a different way. Be prepared to explain the meaning of your new categories.