## Lesson 20: Interpreting Inequalities

* Let’s interpret the meaning of situations with phrases like “at least,” “at most,” and “up to.”

### 20.1: Math Talk: Solving Inequalities

Mentally solve for $x$.

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

### 20.2: Checking and Graphing Inequalities

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

1. $-2x<4$
	1. Solve the inequality.
	2. Check your answer using a value that makes your solution true.
2. $3x+5>6x−4$
	1. Solve the inequality.
	2. Check your answer using a value that makes your solution true.
3. $-3(x+1)\geq 13$
	1. Solve the inequality.
	2. Check your answer using a value that makes your solution true.

For each statement:

* 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.
* 
1. 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.
* 
1. There's a minimum of 3 years of experience required. Let $x$ represent the years of experience a candidate has.
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### 20.3: Card Sort: What’s the Situation?

Your teacher will give you a set of cards that show a graph, an inequality, or a situation. Sort the cards into groups of your choosing. Be prepared to explain the meaning of your categories. Then, sort the cards into groups in a different way. Be prepared to explain the meaning of your new categories.



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