What You'll Learn

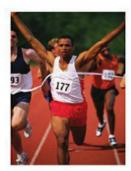
To solve one-step inequalities by adding or subtracting

© CONTENT STANDARDS

6.EE.5

Why Learn This?

You can solve inequalities when you need to find an unknown amount. For example, you can determine how close you are to meeting a goal in sports or in business.



To solve an inequality, use inverse operations to get the variable alone.

EXAMPLES Solving Inequalities

1 Solve
$$s - 7 < 3$$
.

$$s - 7 < 3$$

$$s~-~7~+~7~<~3~+~7~~\leftarrow$$
 Add 7 to each side to undo the subtraction.

$$s < 10 \leftarrow$$
Simplify.

Examples

3 Solving Inequalities Solve $f - 4 \ge 8$.

EXAMPLES Solving Inequalities

Solve
$$n+12 \ge 18$$
.
 $n+12 \ge 18$
 $n+12-12 \ge 18-12 \leftarrow$ Subtract 12 from each side to undo the addition.
 $n \ge 6 \leftarrow$ Simplify.

2 Solving Inequalities Solve p + 16 < 34.

Out als Charak	Table talk
Quick Check	Table talk

1. Solve $u - 6 \le 3$.

2. Solve z + 15 > 24.



EXAMPLE Application: Running

A marathon runner plans to run at least 55 miles this week. He has already run 42 miles. Write and solve an inequality to find how many more miles he plans to run this week.

Words miles run + miles left is at least 55 miles

Let
$$m =$$
 number of miles left.

Inequality 42

$$42+m \geq 55$$
 $42+m-42 \geq 55-42 \leftarrow \text{Subtract 42 from each side.}$ $m \geq 13 \leftarrow \text{Simplify.}$

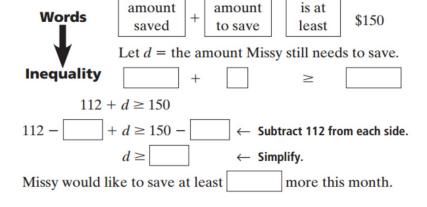
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The marathon runner plans to run at least 13 more miles this week.

55

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Saving Money Missy wants to save at least \$150 this month. She has saved \$112 so far. Write and solve an inequality to find how much more money she would like to save this month.



Try this one on your own, then compare with your table partners.

your table partners. A restaurant can serve a maximum of 115 people. There are now 97 people				
dining in the	restaurant. Write and solve an inequality can be served.			

Name the operation used to solve each inequality.

- 1. $c 4 \ge 8$
- **2.** n + 2 < 13
- 3. $t + 11 \le 11$

Name	Class —	Date
Practice 6-6		Solving One-Step Inequalitie
Solve each inequality.		
1. $x - 5 < 15$	2. $m + 7 \ge 12$	
3. $g - (-4) \ge 0$	4. $-6 > b - 24$	
5. $q + 9 < 60$	6. $h + (-1) > -1$	_
Write an inequality for each sent	ence. Then solve the inequality.	_
	r minus 2	
8. Twenty is less than or equal t	o a number plus 4	
9. A number minus 5 is greater	than 25	
Write an inequality for each prob	olem. Then solve the inequality.	
To make the chess club, you m	we been playing chess for 18 minutes. But win the game in less than be you have to win the chess game?	
minutes. You have been on a	to talk long distance for up to 120 long-distance call for 72 minutes, we to talk before your phone card	
Solve each inequality mentally.		
12. $x - 28 < 108$	13. $s - 18 \ge 12$	
14. $g + 12 > 20$	15. $k-4 \ge 25$	