

LESSON
8-4

Solving Two-Step Inequalities

Success for English Learners

Problem 1

Solve this the same way you would if it was an = sign.

Add 15 to both sides.

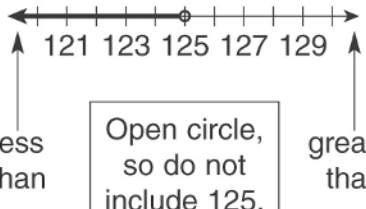
$$\frac{x}{5} - 15 < 10$$

$$\frac{x}{5} - 15 < +15$$

$$\frac{x}{5} < 25$$

Graph your answer on a number line

means any number \rightarrow $x < 125$ means less than



Multiply both sides by 5.

$$(\cancel{5})\frac{x}{\cancel{5}} < 25(\cancel{5})$$

$$x < 125$$

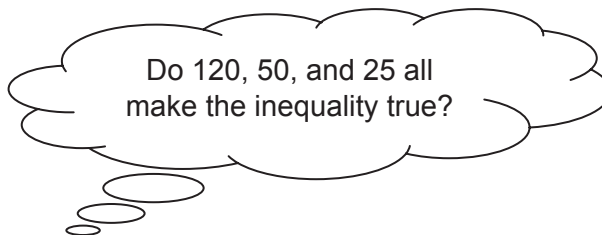
1. In Problem 1, is 125 a solution to the inequality? Explain.

2. In Problem 1, why do you *not* reverse the inequality symbol?

Problem 2

Think of Problem 1 as a real-world problem.

“One fifth of the students less 15 is less than 10. Could there be 120 students or 50 students or 25 students? Why?”



Yes, all make true statements: $120 < 125$, $50 < 125$, and $25 < 125$.

Give three solutions to the inequalities.

3. $100 - 2x > 20$

4. $4y + 3 \leq -13$
