



CCSS: 6.EE.B.5: ... Use substitution to determine whether a given number in a specified set makes an equation or inequality true. **6.EE.B.8:** ... Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions ... on number line diagrams.

Launch

You have \$27 and want to invite the most friends possible to go to a concert. What is the greatest number of people, including you, that can go? Explain.

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Reflect Could fewer friends go with you to the concert?

Got It?

PART 1 Got It (1 of 2)



Which numbers are solutions of the inequality $3k < 21$?

I. 4

II. 7

III. 12

PART 1 Got It (2 of 2)



The balance in the account is \$290. Suppose your aunt writes a check for \$59. Could she write a second check for \$60 and keep the balance above \$150? Explain.

Discuss with a classmate

Read each other's explanation for the problem.

Is the explanation clear?

Underline any key vocabulary terms that were used in the explanation.

Discuss each of the words you underlined.

Revise the explanation if your original explanation did not use vocabulary correctly.

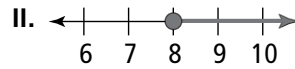
Got It?

PART 2 Got It



What is the solution of $x + 5 \geq 13$?

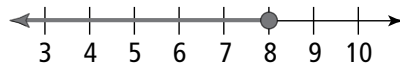
I. $x \geq 8$



PART 3 Got It



Decide which statements are *true*.



- I. The graph shows the solution of $2x \leq 8$.
- II. The graph shows the solution of $24 \geq 3x$.
- III. The graph shows the solution of both $x - 3 \leq 5$ and $x + 4 \leq 12$.

Close and Check



Focus Question

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How is it possible for two different inequalities to describe the same situation?
What does it mean for two inequalities to be equivalent?



Do you know HOW?

1. Circle the inequalities that have 25 as a solution.

$$72 + x < 100 \quad 216 \geq 4x \quad x + 13 < 38$$

$$45 - x > 131 \quad x \div 7 \leq 9$$

2. Complete the steps to solve the inequality.

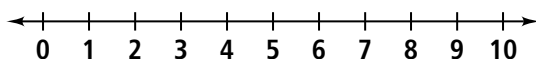
$$h \div 4 > 6$$

$$h \div 4 \cdot \boxed{} > 6 \cdot \boxed{}$$

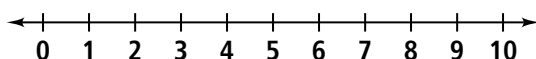
$$h > \boxed{}$$

3. Graph the inequalities on the number lines.

$$2x > 4$$



$$x + 3 > 5$$



Do you UNDERSTAND?

4. **Reasoning** Are the inequalities in Exercise 3 equivalent? How do you know?

5. **Error Analysis** The following inequalities are displayed in your class.

$$y > 4 \quad g < 8$$

Your classmate says that the inequalities are equivalent because 5 is a solution of both. Is she correct? Explain your reasoning.
