

ONE-STEP INEQUALITIES


SOLVING ONE-STEP INEQUALITIES

- Inequalities can be solved by following the same steps as equations.
 - The _____ must be alone or _____ on one side of the inequality.
 - Isolate the variable by using _____ or opposite operations.
 - Whatever you do to one side, you must do to the _____.
- When you multiply or divide by a _____ number, the inequality sign is _____.

Solve each inequality, check your answer, and then graph the solution.


1. $n + 5 \leq 16$

CHECK & GRAPH:




2. $c - 9 > 14$

CHECK & GRAPH:




3. $12g < -48$

CHECK & GRAPH:



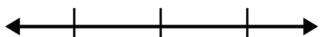
4. $4q \geq -7g$

CHECK & GRAPH:



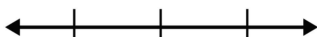
5. $\frac{3}{5}p > q$

CHECK & GRAPH:

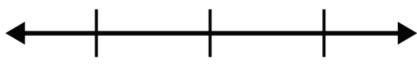
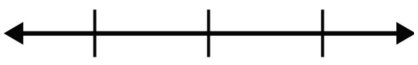
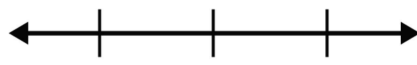


6. $33 \geq x + 19$

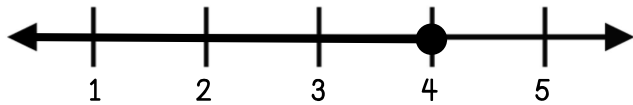
CHECK & GRAPH:



Solve each inequality and then graph your solution.

<p>7.</p> $-7x \geq 35$ 	<p>8.</p> $x - 16 < 11$ 	<p>9.</p> $8 \geq x + 10$ 
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10. The number line below represents the solution set to which inequality? Shade the correct card below.



$$15x \leq 60$$

$$3.5x \geq 14$$

$$18x < 72$$

$$\frac{1}{2}x \leq 8$$

Use your understanding of solving inequalities to answer the questions below.

11. Kevin was asked to place a check mark next to any inequality for which $x = 5$ makes the inequality true. Check over his work and correct any mistakes.

QUESTION #1

$$\checkmark \quad 25 < 5x$$

QUESTION #2

$$\checkmark \quad x - 3 \leq 8$$

QUESTION #3

$$\checkmark \quad 30 \leq 6x$$

12. Each of the students below made a statement about the inequality, $72 > 8x$. Which student(s) made a true statement?

CASSIE

You can rewrite the problem to be $8x > 72$.

DON

The solution will be $x > 9$.



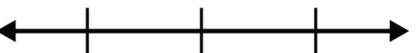
JOSIE

5 is part of the solution set.

Summarize today's lesson:

ONE-STEP INEQUALITIES

Solve the following one-step inequalities, check your work, and graph the solution.

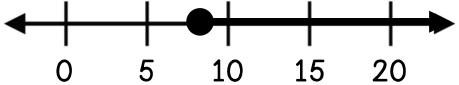
<p>1.</p> $3x < 54$ <p style="text-align: center;">_____</p> <hr style="border-top: 1px dotted black;"/> <p>✓ CHECK:</p> <hr style="border-top: 1px dotted black;"/> <div style="text-align: center;">  </div>	<p>2.</p> $\frac{x}{4} \geq 11$ <p style="text-align: center;">_____</p> <hr style="border-top: 1px dotted black;"/> <p>✓ CHECK:</p> <hr style="border-top: 1px dotted black;"/> <div style="text-align: center;">  </div>	<p>3.</p> $x - 7 > 29$ <p style="text-align: center;">_____</p> <hr style="border-top: 1px dotted black;"/> <p>✓ CHECK:</p> <hr style="border-top: 1px dotted black;"/> <div style="text-align: center;">  </div>
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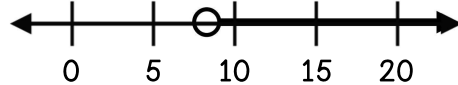
Use your understanding of inequalities to answer the questions below.

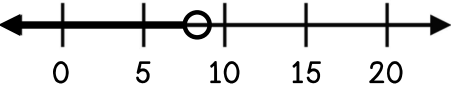
4. Which inequality is true when $x = 4$?

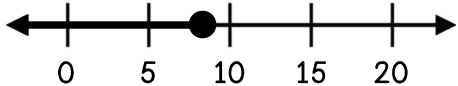
A. $x + 5 \leq 3$ B. $9x > 36$ C. $\frac{x}{2} < 3$ D. $18 \leq x - 8$

5. Jasmine solves the equation $15x > 120$. Which number line below represents the solution set?

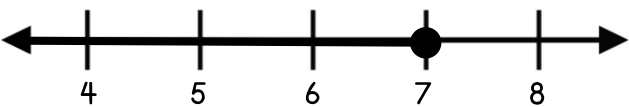
A. 

B. 

C. 

D. 

6. The number line below represents the solution set to which inequality?



A. $16 + x < 23$ B. $5x \geq 35$

C. $x - 3 \leq 4$ D. $\frac{x}{2} > 3.5$