

Grade 7 - Two-Step Inequalities - Test Answer Key

Common Core 7.EE.B.4b · maths-pdf.fr/en/

Use this answer key and scoring guide to grade the inequalities test. Each solution shows the full work, and the scoring note explains how the points are awarded. Give partial credit for correct steps even when the final answer is wrong.

Grade 7 · Common Core State Standards: **7.EE.B.4b**

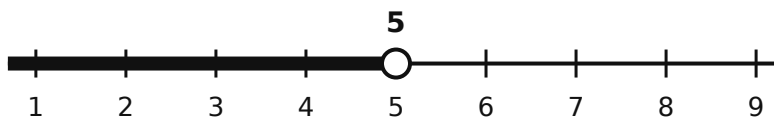
Question 1 - Two-step inequality [2 pts]

Subtract 5 from both sides: $3x < 15$

Divide both sides by 3: $x < 5$

Check a value in the solution set: $x = 4$ gives $17 < 20$, which is true.

$$x < 5$$



Graph of the solution.

Scoring: 1 point for the solution (including the correct symbol); 1 point for the graph with the correct circle and shading.

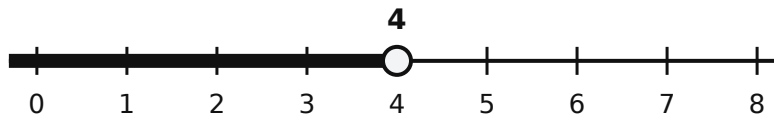
Question 2 - Reverse the symbol [2 pts]

Subtract 3 from both sides: $-4x \geq -16$

Divide both sides by -4 and **reverse the inequality symbol**: $x \leq 4$

Check a value in the solution set: $x = 3$ gives $-9 \geq -13$, which is true.

$$x \leq 4$$



Graph of the solution.

Scoring: 1 point for the solution (including the correct symbol); 1 point for the graph with the correct circle and shading.

Question 3 - Write from a graph [2 pts]

The graph shows $x > 3$ (open circle, shading right).

3 is not a solution; 3.5 is a solution.

$$x > 3$$

Scoring: 1 point for the inequality; 1 point for the correct decisions.

Question 4 - Word problem [2 pts]

$$3 - 0.25p \geq 1, -0.25p \geq -2, p \leq 8.$$

at most 8 pencils

Scoring: 1 point for the inequality; 1 point for the solution with meaning.

Question 5 - Check solutions [2 pts]

$$5(3) - 8 = 7 \leq 12 \text{ true.}$$

$$5(4) - 8 = 12 \leq 12 \text{ true.}$$

$$5(5) - 8 = 17 \leq 12 \text{ false.}$$

3 and 4 are solutions; 5 is not

Scoring: 1 point for the tests; 1 point for the conclusions.

Question 6 - Find the error [2 pts]

Noah divided by a negative number but did not reverse the symbol.

$$x < -4$$

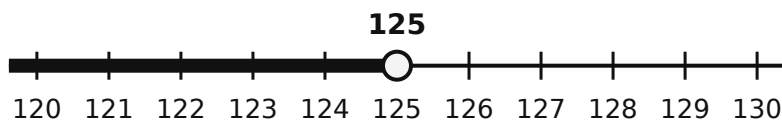
$$x < -4$$

Scoring: 1 point for the explanation; 1 point for the correct solution.

Question 7 - Phone plan [2 pts]

$$0.06m + 20 \leq 27.5, 0.06m \leq 7.5, m \leq 125.$$

at most 125 minutes



Possible numbers of minutes.

Scoring: 1 point for the inequality; 1 point for the solution.

Question 8 - Weight limit [3 pts]

- a. $6.5b + 10 \leq 50$
- b. $6.5b \leq 40$, so $b \leq 6.15$ (about).
- c. 6 boxes.

Scoring: 1 point for each part.

Question 9 - Compare plans [3 pts]

- a. $5 + 0.5s < 1.25s$
- b. $5 < 0.75s$, so $s > 6.67$ (about).
- c. Plan A is cheaper when the customer buys 7 or more songs a month.

Songs	Plan A	Plan B
5	\$7.50	\$6.25
6	\$8.00	\$7.50
7	\$8.50	\$8.75

Costs for 5, 6 and 7 songs.

Scoring: 1 point for each part.

Total
20 points