

Grade 6 · Writing and Graphing Inequalities · Worksheet Answer Key

Common Core 6.EE.B.5, 6.EE.B.8 · mathovore.fr

This answer key gives complete solutions for the inequalities worksheet. Each answer explains the substitution or the circle and the shading direction, and every final answer is in bold, so students can check their number lines and symbols.

Grade 6 Common Core: 6.EE.B.5 · 6.EE.B.8

Problem 1: Reading Inequality Symbols

- a. x is greater than 7
- b. y is less than or equal to 12
- c. 3 is less than n (n is greater than 3)
- d. p is greater than or equal to 0.5

Problem 2: Comparing Numbers

- a. $9 > 4$
- b. $2.5 = 2.50$ and $2.50 > 2.05$: $2.5 > 2.05$
- c. $\frac{3}{4} = 0.75$ and $\frac{7}{10} = 0.70$: $\frac{3}{4} > \frac{7}{10}$
- d. $\frac{1}{3}$ is about 0.333, which is greater than 0.3: $0.3 < \frac{1}{3}$

Problem 3: Testing Values

- a. $8 > 6$ is true. **Yes**
- b. $10 < 10$ is false. **No**
- c. $4 \geq 4$ is true. **Yes**
- d. $3 \leq 2.5$ is false. **No**

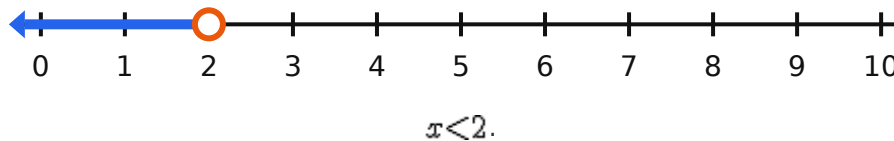
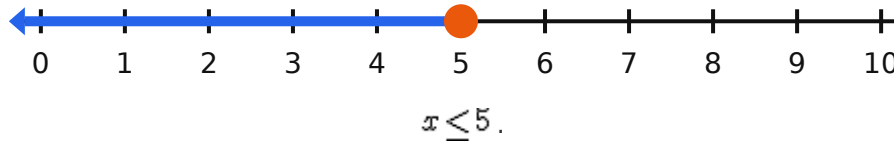
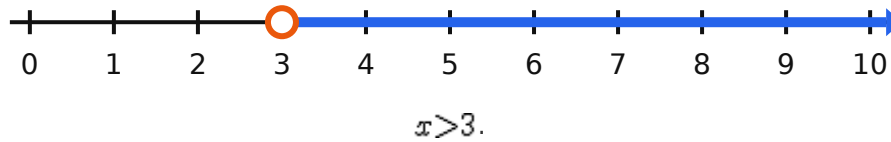
Problem 4: Writing Inequalities

- a. $x > 9$
- b. $y < 15$
- c. $n \geq 20$
- d. $p \leq 3.5$

Problem 5: Graphing Inequalities

- a. Open circle at 3, shaded to the right. **See graph one.**

- b. Closed circle at 5, shaded to the left. **See graph two.**
 c. Open circle at 2, shaded to the left. **See graph three.**



Problem 6: Reading Graphs

- a. Open circle at 4, shaded right: $x > 4$
 b. Closed circle at 7, shaded left: $x \leq 7$

Problem 7: Infinitely Many Solutions

Check each number: $3 > 2.5$, $4 > 2.5$, and $2.6 > 2.5$ are true, so **3, 4, and 2.6** are solutions. The number 2.5 is not a solution because $2.5 > 2.5$ is false; neither is 2.

There are infinitely many solutions because after every solution, such as 2.6, 2.51, or 2.501, there is always another number that is still greater than 2.5.

Problem 8: Little League Ages

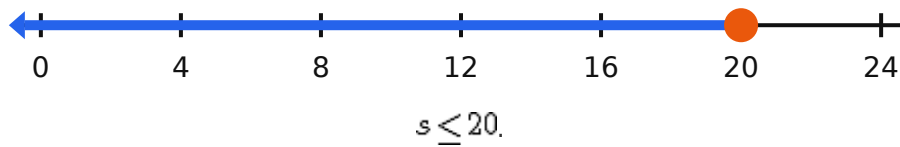
At most 12 includes 12, so the inequality is $a \leq 12$.

$12 \leq 12$ is true, so $a = 12$ **is a solution**. $13 \leq 12$ is false, so $a = 13$ **is not**.

Problem 9: Spending Limit

- a. She can spend up to \$20, so $s \leq 20$.

- b. $18.75 \leq 20$ is true, so **\$18.75 is a solution**. $21 \leq 20$ is false, so **\$21 is not**.
 c. Closed circle at 20, shaded to the left toward 0. **See graph.**



Problem 10: Roller Coaster

- a. $h \geq 48$
 b. $45.5 \geq 48$ is false; $48 \geq 48$ and $51 \geq 48$ are true. **Aisha and Noah can ride.**
 c. Closed circle at 48, shaded to the right. **See graph.**
 d. $45.5 + x = 48$, so $x = 48 - 45.5 = 2.5$ **inches**

