LESSON MAKER PRO

Truth Check Lab

Test each value by substituting it into the equation or inequality.

GRADE 7 · TEKS 7.11.B

7.11.B "determine if the given value(s) make(s) one-variable, two-step equations and inequalities true; and"

NAME _____ DATE _____

CHECK THE VALUE

Replace x with the given value, then simplify each side. An equation is true when both sides are equal, and an inequality is true when the comparison statement is correct.

WORKED EXAMPLE

Does x = 7 make 5x - 4 = 31 true?

1. Substitute 7 for x: 5(7) - 4 = 31.
2. Multiply: 35 - 4 = 31.
3. Subtract: 31 = 31.
4. Both sides are equal, so the equation is true.

Answer: Yes, x = 7 makes the equation true.

PRACTICE 6 problems

1 Does x = 3 make 2x + 6 = 12 true?

ANSWER _____

2 Does x = 2 make 6x - 3 = 9 true?

ANSWER _____

3 Does x = -1 make 8 + 2x > 1 true?

ANSWER _____

4 Does x = 0 make 9 - 3x <= 8 true?

ANSWER _____

5 Which value makes 2x + 8 = 28 true: x = 10 or x = 1?

ANSWER _____

6 Does x = -2 make -2x + 9 >= 13 true?

ANSWER _____

APPLY IT Show your work

1 A coding club charges $3 for a badge and $2 for each meeting. Mina attends 6 meetings. Does x = 6 make 2x + 3 = 15 true for Mina's total cost?

WORK SPACE

ANSWER _____

2 A music app already has 8 downloaded songs. It adds 3 songs each day for 6 days. Does x = 6 make 3x + 8 <= 26 true if the app can store at most 26 songs?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student says x = -6 makes 2x + 9 > -3 true because -12 + 9 = -3. Is the student correct? Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Truth Check Lab

GRADE 7 · TEKS 7.11.B

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Does x = 3 make 2x + 6 = 12 true?	**Yes**
2	Does x = 2 make 6x - 3 = 9 true?	**Yes**
3	Does x = -1 make 8 + 2x > 1 true?	**Yes**
4	Does x = 0 make 9 - 3x <= 8 true?	**No**
5	Which value makes 2x + 8 = 28 true: x = 10 or x = 1?	**x = 10 makes the equation true. x = 1 does not.**
6	Does x = -2 make -2x + 9 >= 13 true?	**Yes**

PART 2 · APPLY IT

1. **Yes, x = 6 makes the equation true.** Substitute 6 for x: 2(6) + 3 = 12 + 3 = 15. The total matches 15.
2. **Yes, x = 6 makes the inequality true.** Substitute 6 for x: 3(6) + 8 = 18 + 8 = 26. Since 26 <= 26, the inequality is true.

CHALLENGE

No. When x = -6, 2x + 9 = -3, and -3 is not greater than -3.

Accept Yes or True for items 1, 2, 3, and 6, and No or False for item 4. For the challenge, students must state that equality does not satisfy the strict greater-than sign.