

Truth Test Lab

Test a value by substituting it into an equation or inequality.

GRADE 6 • TEKS 6.10.B

6.10.B "determine if the given value(s) make(s) one-variable, one-step equations or inequalities true."

NAME _____

DATE _____

CHECK THE VALUE

To test a value, replace x with the given number. Calculate, then decide whether the equation or inequality is true.

WORKED EXAMPLE

Does $x = 9$ make $x - 5 = 4$ true?

1. Replace x with 9.
2. Calculate the left side: $9 - 5 = 4$.
3. Compare: $4 = 4$ is true.

Answer: Yes, $x = 9$ makes the equation true.

PRACTICE 6 problems

1 Does $x = 6$ make $x + 8 = 14$ true?

ANSWER _____

2 Does $x = 7$ make $3x = 20$ true?

ANSWER _____

3 Does $x = -2$ make $x + 13 < 12$ true?

ANSWER _____

4 Does $x = 11$ make $x / 2 \geq 6$ true?

ANSWER _____

5 Does $x = -3$ make $-7x \leq 21$ true?

ANSWER _____

6 Does $x = 1/3$ make $x + 2/3 = 1$ true?

ANSWER _____

APPLY IT Show your work

- 1** At a gaming club, each round earns 12 tickets. The equation $12x = 36$ represents earning 36 tickets after x rounds. Sam says $x = 3$. Is Sam correct?

WORK SPACE

ANSWER _____

- 2** Maya needs at least \$24 to buy a game accessory. She earns \$7 for each chore she completes. The inequality $7x \geq 24$ represents her goal after x chores. Maya says $x = 3$. Is Maya correct?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student says $x = -7$ makes $-2x > 13$ true. Is the student correct? Explain your reasoning.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Does $x = 6$ make $x + 8 = 14$ true?	Yes
2	Does $x = 7$ make $3x = 20$ true?	No
3	Does $x = -2$ make $x + 13 < 12$ true?	Yes
4	Does $x = 11$ make $x / 2 \geq 6$ true?	No
5	Does $x = -3$ make $-7x \leq 21$ true?	Yes
6	Does $x = 1/3$ make $x + 2/3 = 1$ true?	Yes

PART 2 • APPLY IT

1. **Yes, Sam is correct.** Substitute 3 for x . Since $12(3) = 36$, the equation is true.
2. **No, Maya is not correct.** Substitute 3 for x . Since $7(3) = 21$ and 21 is not greater than or equal to 24, the inequality is false.

CHALLENGE

Yes. Replacing x with -7 gives $-2(-7) > 13$, or $14 > 13$, which is true.

Accept Yes or No with correct substitution work. For problem 4, accept a comparison such as $11/2 < 6$ or $5\ 1/2 < 6$.