LESSON MAKER PRO

Equation Detectives

Check both sides to decide if each equation is true or false.

GRADE 4 · MA.4.AR.2.1

MA.4.AR.2.1 "Determine and explain whether an equation involving any of the four operations with whole numbers is true or false."

NAME _____ DATE _____

CHECK BOTH SIDES

An equation is true when the value on the left side equals the value on the right side. Solve each side carefully, then compare the values. If they match, the equation is true. If they do not match, it is false.

WORKED EXAMPLE

48 - 15 = 33

1. Solve the left side: 48 - 15 = 33.
2. Compare the two sides: 33 = 33.
3. The sides match.

Answer: True

PRACTICE 6 problems

1 Is 36 + 27 = 63 true or false? Show the value of each side.

ANSWER _____

2 Is 84 - 29 = 56 true or false? Show the value of each side.

ANSWER _____

3 Is 7 * 8 = 54 true or false? Show the value of each side.

ANSWER _____

4 Is 72 / 9 = 8 true or false? Show the value of each side.

ANSWER _____

5 Is 125 + 75 = 190 true or false? Show the value of each side.

ANSWER _____

6 Is 96 / 12 = 8 true or false? Show the value of each side.

ANSWER _____

APPLY IT Show your work

1 At game club, Maya says that 9 packs of 7 trading cards make 56 cards. She writes 9 * 7 = 56. Is her equation true or false? Explain.

WORK SPACE

ANSWER _____

2 The robotics team has 144 stickers and puts 12 stickers in each prize bag. Leo writes 144 / 12 = 11. Is his equation true or false? Explain.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Is (56 / 7) + 13 = 4 * 5 + 1 true or false? Explain how you checked both sides.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Detectives

GRADE 4 · MA.4.AR.2.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Is 36 + 27 = 63 true or false? Show the value of each side.	**True; 36 + 27 = 63, so both sides equal 63.**
2	Is 84 - 29 = 56 true or false? Show the value of each side.	**False; 84 - 29 = 55, and 55 does not equal 56.**
3	Is 7 * 8 = 54 true or false? Show the value of each side.	**False; 7 * 8 = 56, and 56 does not equal 54.**
4	Is 72 / 9 = 8 true or false? Show the value of each side.	**True; 72 / 9 = 8, so both sides equal 8.**
5	Is 125 + 75 = 190 true or false? Show the value of each side.	**False; 125 + 75 = 200, and 200 does not equal 190.**
6	Is 96 / 12 = 8 true or false? Show the value of each side.	**True; 96 / 12 = 8, so both sides equal 8.**

PART 2 · APPLY IT

1. **False; 9 * 7 = 63, not 56.** Multiply 9 by 7 to find the total number of cards. The left side is 63, so the equation is false.
2. **False; 144 / 12 = 12, not 11.** Divide 144 by 12 to find the number of prize bags. The left side is 12, so the equation is false.

CHALLENGE

True; (56 / 7) + 13 = 8 + 13 = 21, and 4 * 5 + 1 = 20 + 1 = 21.

Accept true or false only when it is supported by correct values for both sides. Students may show work in a different order if their calculations and comparison are correct.