

## Answer on Question #80111 – Math – Algebra

### Question

Is the equation  $-2(4-x)=2x+8$  an identity? Explain your reasoning.

### Solution

An identity equation is an equation that is always true for any value substituted into the variable.

We consider the equation  $-2(4 - x) = 2x + 8$

Let us open the brackets on the left side of equation:

$$-2(4 - x) = -8 + 2x$$

As a result, the initial equation takes the form:

$$-8 + 2x = 2x + 8$$

After collecting all the terms of the equation in the left side we get:

$$-8 + 2x - 2x - 8 = 0$$

$$-16 = 0$$

This statement is false for every value of  $x$ . Therefore, the equation is not an identity.

**Answer:** No, because solving the equation gives a statement that is never true.