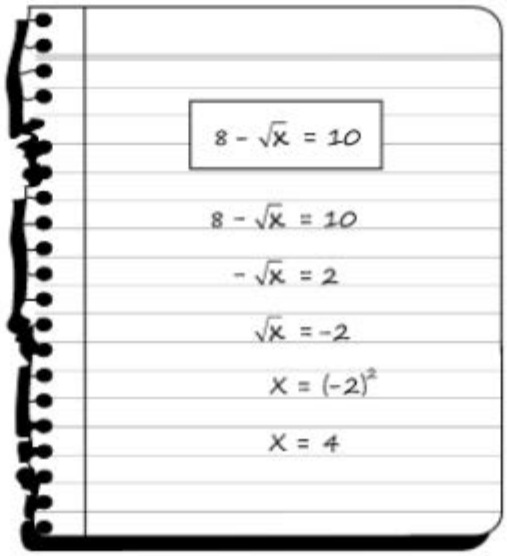
Mark solved the equation in the box, using the steps shown.



Is the solution $x = 4$ correct? State yes or no, and justify your answer.

Enter your answer and your justification in the space provided.

Rubric

Score	Description

3	Student response includes the following 3 elements.
	• **Component 1** = 1 point
	  ○ A simple statement of no without any explanation or justification somewhere in the response earns the answer point.
	  ○ A wrong answer cannot be justified. If a student answers only yes, no points can be earned for the entire task. (However, if the response says something like yes, the algebra is correct, but then goes on to show that the solution does not work in the original equation, the answer point can be earned back along with the reasoning.)
	• **Component 2** = 1 point
	  ○ Checking the solution in the equation
	Sample Student Response:
	The solution is not correct because 4 does not create a true statement (or 4 creates an inconsistency) when substituted for x in the original equation, as shown.
	$8 - \sqrt{4} = 10$
	$8 - 2 = 10$
	$6 \neq 10$
	Therefore, x = 4 is not a solution to the equation.
	• **Component 3** = 1 point
	  ○ Reasoning
	Sample Student Response:

	Sample Student Response: Mark created an extraneous solution when he squared both sides of the equation. OR $\sqrt{x} = -2$ has no real number solution. Therefore, the original equation has no solution. OR Sometimes, when you use the method of raising both sides of an equation to an even power, you create unintended, or extraneous solutions. Note: The response can appeal to either the extraneous solution reason or the no real solution reason to earn the point. Both are not needed.

	Note: Credit for a correct answer of 'no' can be earned as long as the response does not include clear indication of inappropriate work, such as indication that the algebra in the prompt was flawed. Note that inappropriate work such as this is not the same as incorrect work, such as an attempt to check the solution given in the prompt that contains a calculation error. *Some examples where credit for the first element is earned may include:* • An answer of no is given with correct and appropriate work for the second or third elements, or; • An answer of no is given with incorrect but appropriate work for the second or third elements, or; • An answer of no is given with vague or incomplete work for the second or third elements that does not clearly indicate inappropriate operations, or; • An answer of no is given, by itself and without any further work (as per the first note of the rubric), or; • An answer of yes is given that specifically addresses the algebra in the prompt (and not the solution) with work that demonstrates that the solution does not work in the original equation (as per the second note of the rubric). *Some examples where credit for the first element is not earned may include:* • An answer of no is given with inappropriate work for the second or third elements, or; • An answer of yes is given that specifically addresses the solution given in the prompt (and not the algebra).
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

Genesis Conversion chart

Points	Genesis Conversion	Points	Genesis Conversion	Points	Genesis Conversion
0	55	0	55	0	55
1	59	1	69	1	69
2	69	2	79	2	89
3	79	3	89	3	100
4	89	4	100		
5	100				