

Name: _____

Date: _____

Matt and his friends paid \$30 for 4 sandwiches and 4 bottles of water.

- Each sandwich costs the same amount.
- The bottles of water cost \$2 each.

The equation $4(x + 2) = 30$ can be used to determine x , the cost of each sandwich.

Matt solved the equation using the following steps:

$$4(x + 2) = 30$$

$$4x + 2 = 30$$

$$4x = 28$$

$$x = 7$$

Therefore, Matt calculates the cost of each sandwich as \$7. Did Matt solve the equation correctly?

- If he did, justify each step of Matt's solution using mathematical properties.
- If he did not, describe any error Matt made in his calculation and determine the price of each sandwich. Justify each step you used to come to your conclusion.

Enter your answers and your justification in the space provided.



ANSWER KEY

Rubric	
Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Computation component = 1 point <ul style="list-style-type: none"> ○ Correctly determines that each sandwich costs \$5.50. • Reasoning component = 2 points <ul style="list-style-type: none"> ○ Correctly describes the error Matt made when he solved the equation ○ Shows the corrected steps for solving the equation <p>Sample Student Response: “Matt did not correctly use the distributive property when he simplified $4(x + 2)$ and changed it to $4x + 2$. Both the x and the 2 should be multiplied by 4, so he should have written $4x + 8$.”</p> <p>$4(x + 2) = 30$ $4x + 8 = 30$ $4x = 22$ $x = 5.50$</p> <p>Notes:</p> <ul style="list-style-type: none"> • The student must describe the error made and fix the error in order to receive full reasoning credit. • If the student only describes the error made or fixes the error without describing it, student will receive at most 1 reasoning point.
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.

Glow	Grow