

Step-by-Step Verification Guidelines













Multistep arithmetic

Overview

We've used an AI model to generate a sequence of steps to solve math problems, but some of these steps might be wrong. Your task is to **go through each step and verify whether it is correct or not**.

The AI's task is to solve arithmetic problems. For example:

$$((-3 + 5 * 8 * -4) - (9 - 8 * -7 + -9)) =$$

This equation can be written as "A - B", where A = $(-3 + 5 * 8 * -4)$ and B = $(9 - 8 * -7 + -9)$.	  
Let's calculate A = $(-3 + 5 * 8 * -4) = (-3 + (5 * 8) * -4) = (-3 + (40) * -4) = (-3 + (40 * -4)) = (-3 + (-160)) = -163$.	  
Let's calculate B = $(9 - 8 * -7 + -9) = (9 - (8 * -7) + -9) = (9 - (-56) + -9) = ((9 - -56) + -9) = ((65) + -9) = 56$.	  
Then, the final equation is $A - B = -163 - 56 = -219$. So the answer is -219	  



Please note the order of operations in mathematics:

1. Brackets
2. Exponents
3. Multiplication and division
4. Addition and subtraction
5. Otherwise, go from left to right

Instructions

- (1) You should label each step as positive or negative.
Once you label one step, the next step will be unlocked.

Positive	Negative
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 <p>This step is logically correct and contributes to task progression.</p> <p>Typos and grammatical mistakes are allowed as long as the logic is still correct.</p>	 <p>This step is one or more of the following:</p> <ul style="list-style-type: none"> • Logically incorrect or requiring large logical jumps <ul style="list-style-type: none"> • Repetitive or redundant • Off-topic or contains gibberish • Leads to an obvious dead end <ul style="list-style-type: none"> • Refers to external links, images, or graphs
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(2) Each set of steps can be submitted when **either**:

- (a) All the steps have been labelled as positive; **or**
- (b) The last labelled step is negative. In this case, the next step will not unlock and you do not have to label the remaining steps.



Example labels

In this section, we've taken the "positive" steps for this example and added some possible variations, as well as some "negative" examples so you can compare them side-by-side. Note that you will not be able to do this when doing the annotation, so make sure to check each step carefully!

$$((-3 + 5 * 8 * -4) - (9 - 8 * -7 + -9)) =$$

		Reason
<p>This equation can be written as "A - B", where A = $(-3 + 5 * 8 * -4)$ and B = $(9 - 8 * -7 + -9)$.</p>	$((-3 + 5 * 8 * -4) - (9 - 8 * -7 + -9)) = (-3 + (5 * 8) * -4) - (9 - 8 * -7 + -9) = (-3 + (40) * -4) - (9 - 8 * -7 + -9) = (-3 + (40 * -4)) - (9 - 8 * -7 + -9) = (-3 + (-160)) - (9 - 8 * -7 + -9) = -163 - (9 - 8 * -7 + -9) = -163 - (9 - (8 * -7) + -9) = -163 - (9 - (-56) + -9) = -163 - ((9 - -56) + -9) = -163 - ((65) + -9) = -163 - 56 = -219.$	<p>This does not follow the format in the example, but it shows all steps clearly without jumps in logic.</p>

	Let $x = (-3 + 5 * 8 * -4)$	Alternative ways of going through the math question is allowed, as long as there are no jumps in logic.
Let's calculate $A = (-3 + 5 * 8 * -4) = (-3 + (5 * 8) * -4) = (-3 + (40) * -4) = (-3 + (40 * -4)) = (-3 + (-160)) = -163$.	Let's calculate $A = (-3 + 5 * 8 * -4) = (-3 + (5 * 8) * -4) = (-3 + (40) * -4)$.	Steps can be split up into smaller steps, as long as there are no jumps in logic. This example is considered positive since the logic is correct and there are no jumps (so far).
Let's calculate $B = (9 - 8 * -7 + -9) = (9 - (8 * -7) + -9) = (9 - (-56) + -9) = ((9 - -56) + -9) = ((65) + -9) = 56$.	Let's calculate $B = (9 - 8 * -7 + -9) = (9 - (8 * -7) + -9)$.	Brackets are used to indicate the order of operations. Adding an additional set of brackets to disambiguate the order is not considered redundant.
Then, the final equation is $A - B = -163 - 56 = -219$. So the answer is -219		

		Reason
This equation can be written as "A - B", where $A = (-3 + 5 * 8 * -4)$ and $B = (9 - 8 * -7 + -9)$.	$((-3 + 5 * 8 * -4) - (9 - 8 * -7 + -9)) = -163 - 56 = -219$.	Even though the answer is correct, this step skips over most of the operations and should be considered negative.
	This equation can be written as "A - B", where $A = (-3 + 4 + 8 * -4)$ and $B = (9 - 8 * -7 + -9)$.	The equation is replicated incorrectly.
Let's calculate $A = (-3 + 5 * 8 * -4) = (-3 + (5 * 8) * -4) = (-3 + (40) * -4) = (-3 + (40 * -4)) = (-3 + (-160)) = -163$.	Let's calculate $A = (-3 + 5 * 8 * -4) = ((-3 + 5) * 8 * -4) = (2 * 8 * -4) = ((2 * 8) * -4) = ((16) * -4) = -64$.	The order of operations is incorrect. Addition should not be performed before multiplication.
Let's calculate $B = (9 - 8 * -7 + -9) = (9 - (8 * -7) + -9) = (9 - (-56) + -9) = ((9 - -56) + -9) = ((65) + -9) = 56$.	Let's calculate $B = (9 - 8 * -7 + -9) = (9 - (8 * -7) + -9) = (9 - (-54) + -9) = ((9 - -54) + -9) = ((63) + -9) = 54$.	Although the order of operations is correct, some of the calculations were wrong and resulted in the wrong answer.

Then, the final equation is $A - B = -163 - 56 = -219$. So the answer is -219		
	Final answer: -219.	Steps that are redundant (e.g. repeating previous steps) are considered negative.
	Bob has the yellow ball. ABCDEFGG	Any unrelated text is considered negative.