


[Q₁] **Grace** weighs **125** pounds. **Alex** weighs **2** pounds less than **4** times what **Grace** weighs. What are their **combined** weights in pounds?

[Ground-Truth a_1^*] 623.0

[Predicted a_{12}] 627.0 

[R_{12}] in Python

grace_weight = 125		
ϵ	C	correct
S	S_1	correct
	S_2	The line of code correctly assigns the given weight of Grace (125 pounds) to the variable grace_weight
	S_3	The given line of code correctly assigns the value of 125 to the variable grace_weight , representing Grace's weight in pounds.
alex_weight = 2		
ϵ	C	alex_weight should be calculated based on grace_weight
S	S_1	alex_weight should be calculated as 4 times grace_weight minus 2
	S_2	The line of code defining alex_weight should be calculated as 4 times Grace's weight minus 2 , which is (4 * grace_weight) - 2 .
	S_3	The calculation for Alex's weight is not correct. It should be calculated as 4 * grace_weight - 2 .
weight_multiplier = 4		
ϵ	C	correct
S	S_1	The line of code is correct as it defines the multiplier for Alex's weight based on Grace's weight.
	S_2	Correct because it assigns the correct value (4) to the variable weight_multiplier , which represents the factor by which Grace's weight is multiplied to calculate Alex's weight.
	S_3	The code correctly assigns the value 4 to the variable weight_multiplier , which will be used in the calculation of Alex's weight.
alex_total = alex_weight + weight_multiplier * grace_weight		
ϵ	C	correct formula to calculate alex_total
S	S_1	The formula used to calculate Alex's weight is incorrect.
	S_2	The above line of code calculates Alex's weight correctly as 2 pounds less than 4 times Grace's weight (4 * grace_weight - 2).
	S_3	Alex weighs 2 pounds less than 4 times what Grace weighs, not 2 pounds more.
answer = grace_weight + alex_total		
ϵ	C	should be the sum of grace_weight and alex_weight
S	S_1	The code calculates Alex's weight correctly using the given relationship and adds it to Grace's weight to calculate the combined weight. <u>The only minor issue is the unnecessary use of the separate variable alex_weight which could directly be replaced with the calculation (4 * grace_weight - 2).</u> <u>However, this does not affect the correctness of the answer.</u>
	S_2	The result variable holds the correct combined weight of Grace and Alex, and this line of code correctly calculates the value of answer .
	S_3	The code above correctly calculates the total weight of Grace and Alex based on the given problem statement. <u>The only minor issue</u> is that the alex_weight variable is initialized as 2 , <u>which might be a bit confusing</u> . It would be better to directly calculate alex_total as (4 * grace_weight - 2), <u>but the current code does not produce an incorrect result.</u>