The sum of the squares of three numbers is 138, while the sum of their products taken two at a time is 131. Their sum is:

The sum of the squares of three numbers is 138, while the sum of their products taken two at a time is 131. Their sum is:

A. 20

B. 30

C. 40

D. None of these

Option A. 20 is the right answer

Aptitude Questions by CSS MCQs
Let suppose *The sum of the squares of three numbers is 138 i.e*
$a^2 + b^2 + c^2 = 138$
And, *the sum of their products taken two at a time is 131 i.e*
$(ab + bc + ca) = 131$
Now, as we know that
$(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$
By putting the values, we get
$(a + b + c)^2 = 138 + 2 \times 131$

The sum of the squares of three numbers is 138, while the sum of their products taken two at a time is 131. Their sum is:

$(a + b + c)^2 = 400$

By taking under root on both sides, we get

$\sqrt{(a + b + c)^2} = \sqrt{400}$

$(a + b + c) = 20$

Hence, if the sum of the squares of **three numbers is 138**, while the sum of their **products taken two at a time is 131**. Thenm their sum is 20 as proved above.

which is our right answer:)