

Method

Since $(a - 3)(b - 5)(c + 6) = 0$ the possible solutions are:

$a = 3$, b is anything, c is anything

a is anything, $b = 5$, c is anything

a is anything, b is anything, $c = -6$

Now, the expression $a^2 + b^2 + c^2$ is made smallest by choosing a , b and c to be close to zero as possible. So, $a = 3$, $b = 0$ and $c = 0$ will give us the smallest value of $a^2 + b^2 + c^2 = 3^2 + 0^2 + 0^2 = 9$. Using the other solutions would give always greater than 9.

Answer (D)