

Answer on Question #46045– Math – Integral Calculus

Determine $I = \int 5dx$, given that $I = 16$ when $x = 2$.

3x+C

5x+6

x+C

4x+C

Solution.

At first, we will find the indefinite integral:

$$I = \int 5dx = 5 \int dx = 5x + C.$$

We have condition that $I = 16$, when $x = 2$. Hence, we can define constant C :

$$16 = 5 \cdot 2 + C, \text{ hence } C = 16 - 10 = 6.$$

Answer: the second answer is correct

$$I = 5x + 6.$$