Determine l = ∫ 5dx, given that l = 16, when x = 2.

a. x + c

b. sin2x + c

c. x + c

d. 5x + 6

Solution

$$l = \int 5dx = 5 \int dx = 5(x + c) = 5x + 5c$$

We know that l = 16, when x = 2:

$$l = 16 = 5 * 2 + 5 * c = 10 + 5c \rightarrow c = \frac{6}{5}.$$

Let's put 'c' into equation for l:

$$l = 5x + 5 * \frac{6}{5} = 5x + 6.$$

Answer: d. 5x + 6.