Differentiability - Class XII

Past Year JEE Questions

Questions

Quetion: 01

Let f(x) be a differentiable function at x = a with f'(a) = 2 and f(a) = 4.

Then $\lim_{x \to a} \frac{xf(a) - af(x)}{x - a}$ equals :

A. 4 – 2a
B. 2a + 4
C. a + 4
D. 2a – 4

Solutions

Solution: 01

Explanation

$L = \lim_{x \to a} \frac{xf(a) - af(x)}{x - a}$ [$\frac{0}{0}$ form]

Using L' Hospital rule we get

$L = \lim_{x \to a} \frac{f(a) - af'(x)}{1}$

$f(a) - af'(a) = 4 - 2a$