Class 11 Maths Chapter 13 Limits and Derivatives MCQs For Practice

1. $\lim_{x \to 3} \frac{(\sqrt{x}-1)(2x-3)}{2x^2+x-3}$ **is equal to**

(a) 1/10
(b) -1/10
(c) 1
(d) None of these

2. $\lim_{x \to \pi/4} \frac{sec^2 x - 2}{tan\, x - 1}$ **is**

(a) 3
(b) 1
(c) 0
(d) 2

3. If $\lim_{x \to 2} \frac{x^n - 2^n}{x-2} = 80$ **then the value of n if n is a positive integer is**

(a) 3
(b) 5
(c) 1
(d) 2

4. $\lim_{x \to 2} \frac{e^x - e^2}{x-2}$ **is equal to**

(a) 0
(b) 1
(c) e^2
(d) Limit does not exist

5. $\lim_{x \to 0} \frac{x^2 cos\, x}{1-cos\, x}$ **is equal to**

(a) 0
(b) 1
(c) 2
(d) Limit does not exist

6. If y = [sin (x/2) + cos(x/2)]^2, then the value of dy/dx at x = $\pi/6$

(a) 1/2
(b) 1
(c) $1/\sqrt{2}$
(d) $\sqrt{3}/2$

7. Derivative of the function [sin(x + a)/cosx] with respect to x is

(a) $\sec^2 x \cos a$

(b) sec x cos a

(c) $\sec^2 a \cos x$

(d) $\cos^2 a$

8. Derivative of the function $(x^3 \sin x)/\cos x$ with respect to x is

(a) $3x^2 \sec^2 x$

(b) $x^2 \sec x$

(c) $3x^2 \tan x + x^3 \sec^2 x$

(d) $3x^2 \tan x - x^3 \sec^2 x$

9. The derivative of a function f at x is given by

(a) $\lim_{h \to 0} \frac{f(0+h) - f(x)}{h}$

(b) $\lim_{h \to 0} \frac{f(x+h) - f(x+0)}{h+0}$

(c) $\lim_{h \to 0} \frac{f(x+h) + f(x)}{h}$

(d) $\lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$

10. If $y = \sqrt{\frac{1 - \cos 2x}{1 + \cos 2x}}$ then the value of dy/dx is

(a) $\text{cosec}^2 x$

(b) $\sec^2 x$

(c) tan x

(d) $2 \sin^2 x$

* * * * * * * * * * ANSWER KEYS* * * * * * * * * *

Q.1 - (b)	Q.2 - (d)	Q.3 - (b)	Q.4. - (c)	Q.5 - (c)
Q.6 - (d)	Q.7 - (a)	Q.8 - (c)	Q.9 - (d)	Q.10 - (b)