



Class 11 Mathematics | Limits And Derivatives

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. The limit of $(x^2-4)/(x-2)$ as $x \rightarrow 2$ is:

A. 2 B. Does not exist C. 0 D. 4

2. The limit of $\sin x/x$ as $x \rightarrow 0$ (radians) is:

A. 0 B. ∞ C. -1 D. 1

3. The limit of $\sin(3x)/x$ as $x \rightarrow 0$ is:

A. 3 B. $1/3$ C. 1 D. 0

4. The derivative of x^4 is:

A. $x^5/5$ B. $4x^4$ C. $4x^3$ D. x^3

5. If $f(x)=3x^2-2x+5$, then $f'(1)$ is:

A. 6 B. 5 C. 3 D. 4

6. The derivative of $\sin x$ is:

A. $-\sin x$ B. $-\cos x$ C. $\tan x$ D. $\cos x$

7. The derivative of $\cos x$ is:

A. $-\sin x$ B. $\cos x$ C. $\sin x$ D. $-\cos x$

8. The derivative of a constant is:

A. 0 B. Undefined C. 1 D. The same constant

9. The limit of $(x^3-8)/(x-2)$ as $x \rightarrow 2$ is:

A. 12 B. 4 C. 8 D. 6

10. If $f(x)=x \sin x$, then $f'(x)$ is:

A. $\sin x + x \cos x$ B. $\cos x + x \sin x$
C. $x \cos x$ D. $\sin x - x \cos x$

11. The derivative of $1/x$ for $x \neq 0$ is:

A. $1/x^2$ B. $-1/x^2$ C. $-1/x$ D. $\ln x$

12. The limit of $(1-\cos x)/x$ as $x \rightarrow 0$ is:

A. -1 B. 1 C. $1/2$ D. 0

13. The derivative of $(x+1)/(x-1)$ is:

A. $2/(x-1)^2$ B. $1/(x-1)^2$ C. 1 D. $-2/(x-1)^2$

14. The derivative of x^2 at $x=-3$ is:

A. -6 B. -3 C. 9 D. 6

15. The limit of $(\sqrt{x+1}-1)/x$ as $x \rightarrow 0$ is:

A. 2 B. $1/2$ C. 0 D. 1

ANSWER KEY — check after completing all 15 questions

1.D 2.D 3.A 4.C 5.D 6.D 7.A 8.A 9.A 10.A 11.B 12.D 13.D 14.A 15.B

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper