



Class 12 Mathematics | Integrals

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

1. $\int x^3 dx$ equals:

- A. $x^4/4+C$ B. $3x^2+C$ C. $x^3/3+C$ D. x^4+C

2. $\int \cos x dx$ equals:

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

3. $\int 1/x dx$, $x \neq 0$, equals:

- A. $\ln(\text{abs}(x))+C$ B. $-1/x^2+C$
C. $1/x^2+C$ D. $x \ln x+C$

4. $\int e^{2x} dx$ equals:

- A. $e^{2x}+C$ B. $x e^{2x}+C$ C. $e^{2x}/2+C$ D. $2e^{2x}+C$

5. $\int 1/(1+x^2) dx$ equals:

- A. $\sin^{-1} x+C$ B. $\ln(1+x^2)+C$
C. $\tan^{-1} x+C$ D. $1/(2x)+C$

6. $\int 2x/(1+x^2) dx$ equals:

- A. $1/(1+x^2)+C$ B. $\ln(1+x^2)+C$
C. $\tan^{-1} x+C$ D. $2\ln(1+x^2)+C$

7. $\int x e^x dx$ equals:

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

8. $\int \sin x \cos x dx$ equals:

- A. $-\sin^2 x/2+C$ B. $\sin^2 x/2+C$
C. $\cos^2 x/2+C$ D. $\sin^2 x+C$

9. $\int$ from 0 to 1 of $x^2 dx$ is:

- A. 3 B. $1/2$ C. 1 D. $1/3$

10. $\int$ from -2 to 2 of $x^3 dx$ is:

- A. 0 B. -8 C. 4 D. 8

11. $\int$ from 0 to π of $\sin x dx$ is:

- A. 1 B. 0 C. π D. 2

12. $\int$ from 0 to $\pi/2$ of $\cos^2 x dx$ is:

- A. 0 B. $\pi/2$ C. 1 D. $\pi/4$

13. If $\int$ from 0 to 2 of $f(x) dx=5$, then $\int$ from 2 to 0 of $f(x) dx$ is:

- A. 5 B. -5 C. 0 D. 10

14. $\int 1/(x^2-1) dx$, $x>1$, equals:

- A. $\frac{1}{2}\ln((x+1)/(x-1))+C$ B. $\ln(x^2-1)+C$
C. $\tan^{-1} x+C$ D. $\frac{1}{2}\ln((x-1)/(x+1))+C$

15. $\int$ from 0 to 1 of $(3x^2+2x) dx$ is:

- A. 5 B. 1 C. 2 D. 3

ANSWER KEY — check after completing all 15 questions

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