



INDIAN SCHOOL AL WADI AL KABIR

Department of Mathematics, 2023-2024

CLASS: XII

Mathematics (041) _ Integrals 13-08-2023

Revision 1

| | Questions | Answers |
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| 1. | Evaluate: $\int \frac{x^3 - 1}{x^2} dx$ | |
| 2. | Find $\int xe^x dx$ | |
| 3. | Find $\int \left(\frac{1}{2x+3}\right) dx$ | |
| 4. | Evaluate: $\int \left(\sqrt{x} + \frac{1}{\sqrt{x}}\right)^2 dx$ | |
| 5. | Evaluate: $\int \frac{x^3 - x^2 + x - 1}{x - 1} dx$ | |
| 6. | $\int \tan^2 x dx$ | |
| 7. | $\int \frac{1}{\sin^2 x \cos^2 x} dx$ | |
| 8. | $\int \frac{x+1}{x} dx$ | |
| 9. | $\int \frac{1}{x + x \log x} dx$ | |
| 10. | $\int \frac{(\log x)^2}{x} dx$ | |
| 11. | $\int \sec x (\sec x + \tan x) dx$ | |

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| 12. | $\int (e^{2x} + 1)e^{-x} dx$ | |
| 13. | $\int \frac{1 - \cos x}{1 + \cos x} dx$ | |
| 14. | $\int \frac{1}{\sqrt{25 - 9x^2}} dx$ | |
| 15. | $\int \frac{e^x}{e^x + 1} dx$ | |
| 16. | $\int \frac{1 + x}{\sqrt{x}} dx$ | |
| 17. | $\int \frac{1}{x^2 - a^2} dx$ | |
| 18. | $\int \frac{1}{25 - 4x^2} dx$ | |
| 19. | $\int xe^{x^2} dx$ | |
| 20. | $\int \frac{x^2}{\sqrt{x^3 - 1}} dx$ | |
| 21. | $\int \frac{1}{\sqrt{x}} dx$ | |
| 22. | $\int \frac{2x}{\sqrt{x^2 + 1}} dx$ | |
| 23. | $\int (x + 1)(x + 2) dx$ | |
| 24. | $\int \frac{x}{(1 + 3x^2)} dx$ | |
| 25. | $\int x\sqrt{x} dx$ | |
