

Integration

1. $\int \left(2 \sin x + \frac{1}{x} \right) dx$ is equal to

- (1) $-2 \cos x + \log x + c$
 (2) $2 \cos x + \log x + c$
 (3) $-2 \sin x - \frac{1}{x^2} + c$
 (4) $-2 \cos x + \frac{1}{x^2} + c$

2. If $y = \sin(2x + 3)$ then $\int y dx$ will be

- (1) $\frac{\cos(2x+3)}{2}$ (2) $-\frac{\cos(2x+3)}{2} + C$
 (3) $-\cos(2x+3)$ (4) $-2 \cos(2x+3)$

3. $\int 2 \sin(x) dx$ is equal to

- (1) $-2 \cos x + C$ (2) $2 \cos x + C$
 (3) $-2 \cos x$ (4) $2 \cos x$

4. $\int \sin(2x) dx$

- (1) $\frac{\cos x}{2} + C$ (2) $\frac{-\cos 2}{2x} + C$
 (3) $\frac{\cos 2x}{2} + C$ (4) $\frac{-\cos 2x}{2} + C$

5. $\int 3x^2 dx$

- (1) $x^3 + C$ (2) $6x + C$
 (3) $2x^2 + C$ (4) $x^2 + C$

6. $\int (x^2 + \sin x + 3) dx$

- (1) $\frac{x^3}{3} + \cos x + 3x + C$
 (2) $\frac{x^3}{3} - \cos x + 3x + C$
 (3) $\frac{x^3}{3} + \cos x - 3x + C$
 (4) $\frac{x^3}{3} - \cos x - 3x + C$

7. $\int \left(e^x + \frac{1}{x} \right) dx$

- (1) $e^x - \log x$ (2) $e^x - \frac{1}{x^2}$
 (3) $e^x + \frac{1}{x^2}$ (4) $e^x + \log x + c$

8. $\int \frac{4}{\sqrt{x}} dx$

- (1) $\frac{-8}{\sqrt{x}} + C$ (2) $\frac{2}{\sqrt{x}} + C$
 (3) $\frac{4}{\sqrt{x}} + C$ (4) $8\sqrt{x} + C$

9. $\int e^{5x} dx$

- (1) $e^{5x} + C$ (2) $e^{5x} \cdot \frac{5x^2}{2} + C$
 (3) $\frac{e^{5x}}{5} + C$ (4) $e^x + C$

10. $\int 2 \sin x \cos x dx$ is equal to

- (1) $\cos 2x + c$ (2) $\sin 2x + c$
 (3) $\cos^2 x + c$ (4) $\sin^2 x + c$