



Practice with Indefinite Integrals

Please choose the best answer to each of the following questions.

1. $\int 6^{5x} dx = (?) + c$

$$\left(\frac{1}{6}\right) 6^{6x}$$

$$\frac{6^{5x}}{5 \ln 6}$$

$$\frac{6^{5x}}{6 \ln 5}$$

$$6 \cdot 6^{4x}$$

2. $\int (5 \sin \theta - 6 \cos \theta) d\theta = (?) + c$

$$5 \sin \theta \cos \theta$$

$$-5 \cos \theta - 6 \sin \theta$$

$$\frac{5}{2} \sin^2 \theta - 3 \cos^2 \theta$$

$$6 \cos \theta - 5 \sin \theta$$

3. $\int(2r^5 + 5r^4 - r^3 + 9r^2 - r + 3)dr$ What are the coefficients of the integral?

$$\frac{1}{3}, 1, -4, 3, -\frac{1}{2}$$

$$\frac{1}{3}, 1, -\frac{1}{4}, 3, -\frac{1}{2}, 3$$

$$3, \frac{1}{5}, -4, \frac{1}{3}, -2$$

$$3, \frac{1}{5}, -\frac{1}{4}, 3, -\frac{1}{2}, 3$$

4. $(4x^2 - 6x + x^{-2})dx = (?) + c$

$$4x^3 - 3x^2 + x^{-1}$$

$$\frac{4}{3}x^3 + 3x^2 + \frac{1}{x}$$

$$\frac{4}{3}x^3 - 6x^3 - \frac{1}{x}$$

$$\frac{4}{3}x^3 - 3x^2 - \frac{1}{x}$$

5. $\int \tan(8\theta)d\theta = (?) + c$

$$\frac{-\ln \cos(8\theta)}{8}$$

$$\frac{1}{8} \cot(8\theta)$$

$$\frac{\ln \sin(8\theta)}{8}$$

$$-\ln \cos(8\theta)$$

$$6. y(r) = 5r^{10} - 6r^9$$

$$\int y \, dr = (?) + c$$

$$\frac{r^{11}}{2} - \frac{2r^{10}}{3}$$

$$\frac{r^{10}}{2} - \frac{3r^{10}}{2}$$

$$5r^{11} - 6r^{10}$$

$$\frac{5r^{11}}{11} - \frac{3r^{10}}{5}$$

$$7. g(r) = -\cos(r) \text{ The third integral of } g(r) =$$

$$\sin(r) + C$$

$$\cos(r) + Ar + B$$

$$-\sin(r) + \frac{r^2}{2} + r + C$$

$$\sin(r) + Ar^2 + Br + C$$

$$8. \int (-48)dk = (?) + c$$

$$-48$$

$$-24k^2$$

$$-48k$$

$$\frac{1}{48k}$$



$$9. \int e^{\sin(6x)} \cos(6x) dx = (?) + c$$

$$\frac{\cos(6x)}{6} e^{\sin(6x)}$$

$$e^{\sin(6x)}$$

$$\frac{1}{6} e^{\sin(6x)}$$

$$-e^{\cos(6x)}$$

$$10. \int -\frac{2dx}{5x} = (?) + c$$

$$-\frac{2}{5} \ln x$$

$$-2 \ln(5x)$$

$$\ln\left(-\frac{5x}{2}\right)$$

$$-\frac{2}{5} \ln\left(\frac{1}{x}\right)$$

