

Compute each of the following antiderivatives.

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

6. $\int e^{8t-1} dt$

10. $\int \frac{1}{\left(\frac{1}{3}x - 1\right)^5} dx$

2. $\int \sin 2\theta d\theta$

7. $\int \cos(\pi\theta) d\theta$

11. $\int (-2^{5t} + 1) dt$

3. $\int (2y + 3)^{10} dy$

8. $\int \frac{x+2}{x-1} dx$

12. $\int \sqrt{5m+1} dm$

4. $\int \frac{1}{7x-3} dx$

9. $\int \cos\left(2\alpha - \frac{\pi}{4}\right) d\alpha$

13. $\int \frac{1}{\sqrt{4a+1}} da$

5. $\int (2-x)^3 dx$

Answers

$$\begin{aligned} 1.) & \frac{1}{5}e^{5x} + C & 2.) & -\frac{1}{2}\cos 2\theta + C & 3.) & \int \frac{(2y+3)^{11}}{22} + C & 4.) & \frac{1}{7}\ln|7x-3| + C & 5.) & -\frac{1}{4}(2-x)^4 + C \\ 6.) & \frac{1}{8}e^{8t-1} + C & 7.) & \frac{1}{\pi}\sin \pi\theta + C & 8.) & x + 3\ln|x-1| + C & 9.) & \frac{1}{2}\sin\left(2\alpha - \frac{\pi}{4}\right) + C \\ 10.) & -\frac{3}{4\left(\frac{1}{3}x-1\right)^4} + C & 11.) & -\frac{2^{5t}}{5\ln 2} + t + C & 12.) & \frac{2}{15}(5m+1)^{3/2} + C & 13.) & \frac{1}{2}\sqrt{4a+1} + C \end{aligned}$$

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