

## 6.1 | 연습문제 정답

2023. 2. 10 업데이트

01.  $-\cos x + \frac{2}{3}\cos^3 x - \frac{1}{5}\cos^5 x + C$

02.  $\frac{1}{8}\sin^8 x + C$

03.  $\frac{1}{8}\left[\frac{1}{2}x - \frac{1}{8}\sin 4x + \frac{1}{6}\sin^3 2x\right] + C$

04.  $\frac{1}{25}\cos^5 5x - \frac{1}{15}\cos^3 5x + C$

05.  $-\frac{2}{3}\cot^{\frac{3}{2}} x + C$

06.  $\frac{1}{9}\tan^3 3x - \frac{1}{3}\tan 3x + x + C$

07.  $\frac{2}{3}\sec^{3/2} x + 2\sec^{-1/2} x + C$

08.  $-\frac{1}{2}(\csc x \cot x + \ln|\csc x + \cot x|) + C$

09.  $\int_{-\pi}^{\pi} \cos mx \cos nx dx = \begin{cases} 0, & m \neq n \\ \pi, & m = n \end{cases}$

10. (a)  $\frac{1}{2\sqrt{2}}\left(\frac{2}{15} + \frac{1}{28}\right)$  (b) 0 (c)  $\frac{28}{15}$  (d)  $\frac{544}{81}$

11.  $\frac{1}{10}$

12.  $\frac{38}{5\pi}$

13. 증명 생략

14. 증명 생략

15. 증명 생략