

## 5.1 | 연습문제 정답

01. (a)  $\frac{1}{6}x^6 - \frac{2}{3}x^3 + C$

(b)  $4x^2\sqrt[4]{x} + C$

02. (a)  $\frac{3}{5}\sqrt[3]{x^5} + \frac{2}{\sqrt{x}} + C$

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

03. (a)  $2\ln|x^2 - x + 5| + C$

(b)  $\ln|x^3 + x^2 + x + 1| + C$

04. (a)  $4\sin^{-1}x + C$

(b)  $3\tan^{-1}x + C$

05. (a)  $-\cos x + \cot x + C$

(b)  $4x + \tan x + C$

06. (a)  $\ln|\tan x| + C$

(b)  $\ln|\sin 2x| + C$

07. (a)  $\frac{1}{5}x^5 + \frac{4}{3}x^3 + 3x + C$

(b)  $\ln|x| + 3e^x + C$

08. (a)  $\frac{2^x}{\ln 2} + \ln|x| + C$

(b)  $\ln|\ln x| + C$

09.  $-\ln|\csc x + \cot x| + C$

10.  $f(x) = -4\cos x + 3$

11.  $f(x) = e^x + \frac{1}{3}x^3 + 3$

12.  $f(x) = 2x^2 + 8x + 1$

13.  $f(x) = -3\ln|\cos x| - 4\ln|x| + C_1|x| + C_2$  (단  $C_1, C_2$ 는 임의의 상수)

14.  $-3\sin t + \frac{1}{2}t^2 + 3t + 4$

15.  $5\text{m/s}^2$