

1.1 | 연습문제 정답

01. $(f+g)(x) = 2 + \sqrt{x} \ (x \geq 0), \ (fg)(x) = 1 + \sqrt{x} \ (x \geq 0),$
 $\left(\frac{f}{g}\right)(x) = \frac{1}{1 + \sqrt{x}} \ (x \geq 0)$
02. $(f+g)(x) = \sqrt{x^2-1} + \sqrt{x^2-2} \ (x \geq \sqrt{2}, x \leq -\sqrt{2}),$
 $(fg)(x) = \sqrt{x^4-3x^2+2} \ (x \geq \sqrt{2}, x \leq -\sqrt{2}),$
 $\left(\frac{f}{g}\right)(x) = \sqrt{\frac{x^2-1}{x^2-2}} \ (x > \sqrt{2}, x < -\sqrt{2})$
03. $(f \circ g)(x) = \sqrt{\frac{x+1}{x}} \ (x \leq -1, x > 0), \ (g \circ f)(x) = \frac{1}{\sqrt{x+1}} \ (x > -1)$
04. $(f \circ g)(x) = (x-5)^2 \sqrt{x-5} \ (x \geq 5), \ (g \circ f)(x) = \sqrt{x^5-5} \ (x \geq \sqrt[5]{5})$
05. $(f \circ g)(x) = \cos^2 x + 1 \ (x \in R), \ (g \circ f)(x) = \cos(x^2 + 1) \ (x \in R)$
06. $f(u) = u^5, g(x) = \cos x \Rightarrow F(x) = (f \circ g)(x)$
07. $f(u) = u^7, g(x) = x^3 + 2x - 1 \Rightarrow F(x) = (f \circ g)(x)$
08. $f(u) = \sqrt{u}, g(x) = |x^3 - 1| + 3 \Rightarrow F(x) = (f \circ g)(x)$
09. $f(u) = \frac{u}{1+u}, g(x) = \sqrt[4]{x} \Rightarrow F(x) = (f \circ g)(x)$
10. $f(u) = \sec u \tan u, g(x) = x^2 \Rightarrow F(x) = (f \circ g)(x)$
11. $m_2 b_1 + b_2$

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

13. $f(x) = 2x^2 + 4x + 5$

14. F 는 우함수이다.

15. $V(t) = 360 H(t-3)$