

Examples of Function Composition

$$(f \circ g)(x) \equiv f(g(x))$$

$$\begin{aligned} (i^2 \circ (i+1))(x) &= i^2((i+1)(x)) \\ &= i^2(x+1) \\ &= (x+1)^2 \\ &= x^2 + 2x + 1 \end{aligned}$$

$$\begin{aligned} ((i+1) \circ i^2)(x) &= (i+1)(i^2(x)) \\ &= (i+1)(x^2) \\ &= x^2 + 1 \end{aligned}$$