



Soluciones

- 1** Si $f(x) = x^2 - 5x + 3$ y $g(x) = x^2$, obtén las expresiones de $f[g(x)]$ y $g[f(x)]$. Halla $f[g(4)]$ y $g[f(4)]$.

Resolución

$$f[g(x)] = f[x^2] = x^4 - 5x^2 + 3$$

$$g[f(x)] = g[x^2 - 5x + 3] = (x^2 - 5x + 3)^2$$

$$f[g(4)] = 179; \quad g[f(4)] = 1$$

- 2** Si $f(x) = \text{sen } x$, $g(x) = x^2 + 5$, halla $f \circ g$, $g \circ f$, $f \circ f$ y $g \circ g$. Calcula el valor de estas funciones en $x = 0$ y $x = 2$.

Resolución

$$f \circ g(x) = \text{sen}(x^2 + 5); \quad f \circ g(0) = -0,96; \quad f \circ g(2) = 0,41$$

$$g \circ f(x) = \text{sen}^2 x + 5; \quad g \circ f(0) = 5; \quad g \circ f(2) = 5,83$$

$$f \circ f(x) = \text{sen}(\text{sen } x); \quad f \circ f(0) = 0; \quad f \circ f(2) = 0,79$$

$$g \circ g(x) = (x^2 + 5)^2 + 5; \quad g \circ g(0) = 30; \quad g \circ g(2) = 86$$