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Prodi : S1 Sistem Informasi

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

$g(x) = 2x + 3$

$x = 1$

a) $(g \circ f)(x) = g(f(x))$

$= g(x^2 + 4x + 5)$

$= 2(x^2 + 8x + 10 + 3$

$= 2x^2 + 8x + 13$

$x = 1 \rightarrow 2(1)^2 + 8(1) + 13$

$= 23$

b) $(f \circ g)(x) = f(2x + 3)$

$= (2x+3)^2 + 4(2x+3) + 5$

$= (4x^2 + 6x + 6x + 6) + 8x + 12 + 5$

$= 4x^2 + 12x + 6 + 8x + 17$

$= 4x^2 + 20x + 23$

$x = 1 \rightarrow = 4(1)^2 + 20(1) + 23$

$= 4 + 20 + 23$

$= 47$

Date.

(2) (a). $g(x) = 2x + 3$

$(g \circ f)(x) = 6x + 1$

Tentukan $f(x)$ ?

$(g \circ f)(x) = 6x + 1$

$2(f(x)) + 3 = 6x + 1$

$2 \cdot f(x) = 6x + 1 - 3$

$f(x) = \frac{(6x - 2)}{2}$

$f(x) = 3x - 1$

b. $f(x) = x + 2$

$(g \circ f)(x) = x^2 + 4x$

Tentukan $g(x)$

$(g \circ f)(x) = x^2 + 4x$

$g(x+2) = x^2 + 4x$

Misal $x + 2 = a$

$x = a - 2$

$g(x) = (a-2)^2 + 4(a-2)$

$= a^2 + 4 + 4a - 8$

$= a^2 + 4a - 4$

$g(x) = x^2 + 4x - 4$