4. f + g (3)

Dik: $f(x) = -2 - x^2$ dan $g(x) = 5x + 2$

Dit: f+g(3)

Jawab: $(f+g)(x) = f(x) + g(x)$

$= (-2 - x^2) + (5x + 2)$

$= -2 - x^2 + 5x + 2$

$= 5x - x^2$

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

$= 15 + 9 = 24$

5. Dik: $f(x) = x^2 + 5$ dan $g(x) = 1 - 2x$

Dit: $(f \cdot g)(-2)$

Jawab: $(f \cdot g)(x) = f(x) \cdot g(x)$

$= (x^2 + 5) \cdot (1 - 2x)$

$= 1x^2 - 2x^3 + 5 - 10x$

$= 5 - 10x - 2x^2 - 2x^3$

$= 5 - 10(-2) - 1(-2)^2 - 2x(-2)^3$

$= 37$

6. Dik: $f(x) = 3x^2 + 4$ $g(x) = 10 - 2x$

Dit: gof(1)

Jawab: $(gof)(x) = g(f(x))$

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

$10 - 2(3x^2 + 4)$

$= 10 - 6x^2 + 8$

$= 18 - 6x^2$

$(gof)(1) = 18 - 6(1)^2$

$= 12$

8. misalkan $f(x) = y$

$f(x) = 2x^2 - 1$

$y = 2x^2 - 1$

Ubah $x = f(y)$

$y = 2x^2 - 1$

$y + 1 = 2x^2$

$\sqrt{(y+1)} = \sqrt{2x^2}$

$\sqrt{(y+1)} = 2x$

Ganti $y = x$

$f^{-1}(x) = \frac{\sqrt{x+1}}{2}$: $\frac{\sqrt{12}}{\sqrt{2}} = \sqrt{6}$

9. Dik: $f(x) = 2 - 4(x+1)$

Jawab: misalkan $f(x) = y$

$f(x) = 2 - 4(x+1)$

$y = 2 - 4(x+1)$

Ubah $x = f(y)$

$x = 2 - 4(y+1)$

$x = -2(y+1)$

ganti y dengan x

$f^{-1}(x) = -2(x+1)$

$f^{-1}(-2) = -2(-2+1)$

$= -2(-1)$

$= 2$

Dik: $g(x) = x + 2$ $f(x) = \frac{3x-1}{4-x}$: $x \neq 1$