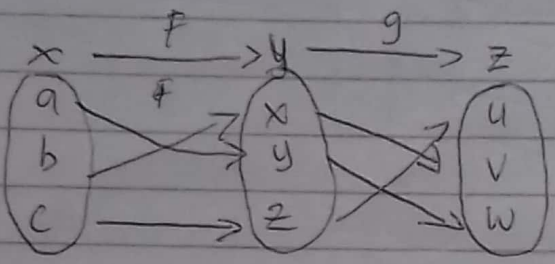
No:

Date:

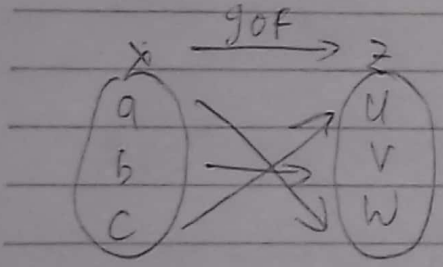
③ Misalkan $x = \{a, b, c\}$ $y = \{x, y, z\}$ $z = \{u, v, w\}$ didevinisikan $f: x \to y$ dan $g: y \to z$ dengan diagram panah Sbb.



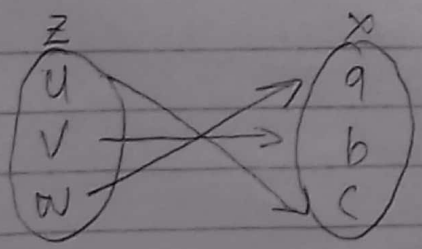
ⓐ Carilah $(g \circ f)$
ⓑ $(g \circ f)^{-1}$
ⓒ g^{-1} dan f^{-1}
ⓓ $(f^{-1} \circ g^{-1})$

Penyelesaian

ⓐ $(g \circ f)(a) = g(f(a)) = g(y) = w$
$(g \circ f)(b) = g(f(x)) = g(x) = v$
$(g \circ f)(c) = g(f(z)) = g(z) = u$

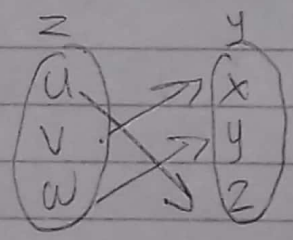


ⓑ Penyelesaian
$(g \circ f)^{-1} = g(f(x)) = g(z) = c$
$(g \circ f)^{-1} = g(f(v)) = g(x) = b$
$(g \circ f)^{-1} = g(f(w)) = g(y) = a$

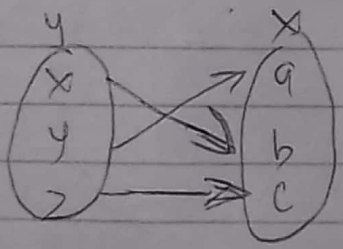


Penyelesaian

ⓒ g^{-1} dan f^{-1}
$g^{-1} = z \to y$

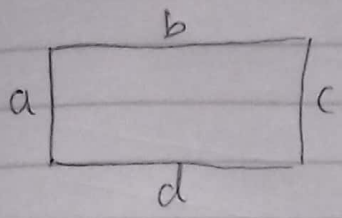


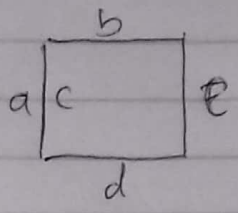
$f^{-1} = y \to x$



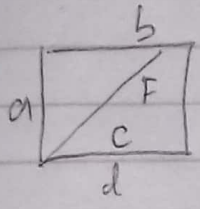
ⓓ Penyelesaian
$(f^{-1} \circ g^{-1})$
Dalam rumus di dapatkan
$(f^{-1} \circ g^{-1}) = (g \circ f)^{-1}$
Maka perhitungan untuk $(g \circ f)^{-1}$
$(g \circ f)^{-1} = g(f(u)) = g(z) = c$
$(g \circ f)^{-1} = g(f(v)) = g(x) = b$
$(g \circ f)^{-1} = g(f(w)) = g(y) = a$

①

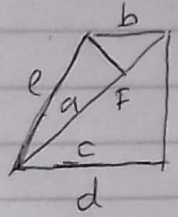




e = lipat (c, a)



F = lipat (c, d)

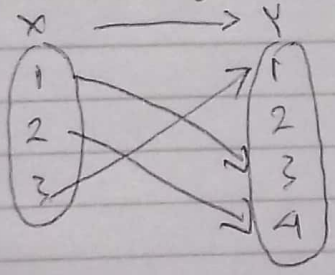


g = lipat (a, F)

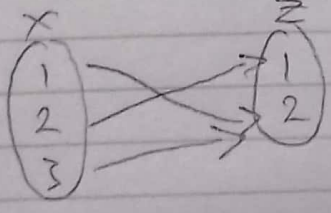
Jadi hasil akhirnya berupa gambar A.

② $X = \{1, 2, 3\}$ $Y = \{1, 2, 3, 4\}$ dan $Z = \{1, 2\}$

a. Buat fungsi $F = X \rightarrow Y$ yang injektif tetapi tidak subjektif



b. Buat fungsi $G = X \rightarrow Z$ yang surjektif tetapi tidak injektif



c. Buat fungsi $H = X \rightarrow X$ yang tidak injektif dan tidak surjektif