

Answer on Question #65796 – Math – Calculus

Question

If $f(x, y, z) = (\cos x, \sin y, \tan z)$ and $g(x, y, z) = (x - 3, y^2 - 1, z^2 - 1)$, then find $f \circ g$.

Solution

We know that $(f \circ g)(x) = f(g(x))$. Using this definition, we can find $(f \circ g)(x, y, z)$:

$$(f \circ g)(x, y, z) = (\cos(x - 3), \sin(y^2 - 1), \tan(z^2 - 1)).$$

Answer:

$$(f \circ g)(x, y, z) = (\cos(x - 3), \sin(y^2 - 1), \tan(z^2 - 1)).$$