4. $g(x) = 3x + 1$

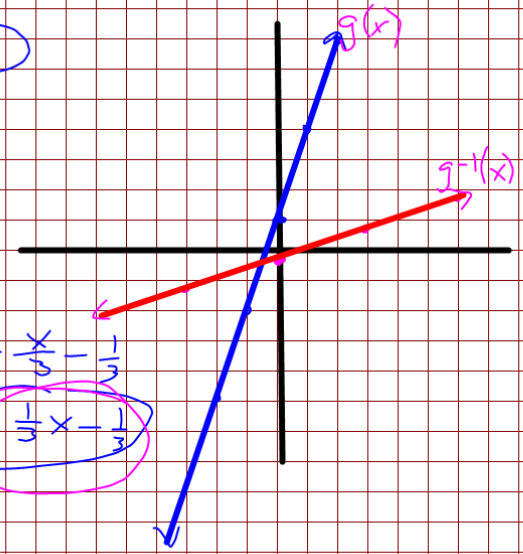
$y = 3x + 1$

$x = 3y + 1$

$x - 1 = 3y$

$\frac{x-1}{3} = y$ or $y = \frac{x}{3} - \frac{1}{3}$

$\frac{x-1}{3} = g^{-1}(x)$ $= \frac{1}{3}x - \frac{1}{3}$



Find the inverse of each relation.

1. $\{(2, 4), (-3, 1), (2, 8)\}$

$\{(4, 2) (1, -3) (8, 2)\}$

$f(x) = 5x + 10$ and $g(x) = \frac{1}{5}x - 2$

$[f \circ g](x) = f(\frac{1}{5}x - 2) = 5(\frac{1}{5}x - 2) + 10$

$= x - 10 + 10$

$= x \leftarrow$ identity

yes

$[g \circ f](x) = g(5x + 10) = \frac{1}{5}(5x + 10) - 2$

$= x + 2 - 2$

$= x \leftarrow$ identity

$f(x) = 3x - 3$ and $g(x) = \frac{1}{3}x + 4$

$[f \circ g](x) = f(\frac{1}{3}x + 4) = 3(\frac{1}{3}x + 4) - 3$

no

$= x + 12 - 3$

$= x + 9 \leftarrow$ not identity

$[g \circ f](x) = g(3x - 3) = \frac{1}{3}(3x - 3) + 4$

$= x - 1 + 4$

$= x + 3 \leftarrow$ not identity

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