

Inverse of Functions

1) If $f(x) = (x + 12)^3$ and $g(x) = \sqrt[3]{x} - 12$, then evaluate

i) $(f \circ g)(x) =$ _____ ii) $(g \circ f)(x) =$ _____

iii) Are the functions $f(x)$ and $g(x)$ inverses? _____

2) If $f(x) = e^{5x}$ and $g(x) = \frac{1}{5} \log_e x$, then evaluate

i) $(f \circ g)(x) =$ _____

iii) Are the functions _____

3) Determine algebraically whether _____

_____ inverses of each other.

PREVIEW

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4) Determine algebraically whether $f(x) = 9x - 6$ and $g(x) = \frac{x + 6}{9}$ are inverses of each other.

Inverse of Functions

1) If $f(x) = (x + 12)^3$ and $g(x) = \sqrt[3]{x} - 12$, then evaluate

i) $(f \circ g)(x) = \underline{\quad x \quad}$

ii) $(g \circ f)(x) = \underline{\quad x \quad}$

iii) Are the functions $f(x)$ and $g(x)$ inverses? Yes

2) If $f(x) = e^{5x}$ and $g(x) = \frac{1}{5} \log x$, then evaluate

i) $(f \circ g)(x) = \underline{\quad}$

25x

iii) Are the functions

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3) Determine algebraically

inverses of each other.

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4) Determine algebraically whether $f(x) = 9x - 6$ and $g(x) = \frac{x + 6}{9}$ are inverses of each other.

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

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

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

$f(x)$ and $g(x)$ are inverses of each other.