

PRACTICE Quiz 9.7 Inverse Functions (1 pt each, 8 pts total)

State if the given functions are inverses. (answer "YES" or "NO")

1)
$$\begin{aligned}g(x) &= \sqrt[3]{x+2} + 2 \\f(x) &= (x-2)^3 - 2\end{aligned}$$

2)
$$\begin{aligned}f(x) &= -2 + \frac{1}{5}x \\h(x) &= \frac{-4+x}{2}\end{aligned}$$

3)
$$\begin{aligned}f(x) &= -\frac{4}{x-2} \\g(x) &= \frac{3}{x} + 1\end{aligned}$$

4)
$$\begin{aligned}g(x) &= 3 - \frac{8}{5}x \\f(x) &= -\frac{5}{8}x + \frac{15}{8}\end{aligned}$$

Find the inverse of each function.

5)
$$g(x) = \frac{6 - \sqrt[5]{16x}}{2}$$

6)
$$f(x) = \frac{x-1}{4}$$

7)
$$g(x) = -\frac{2}{x+2} + 1$$

8)
$$f(x) = -x^3 + 2$$

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1)
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Yes

2)
$$\begin{aligned} f(x) &= -2 + \frac{1}{5}x \\ h(x) &= \frac{-4+x}{2} \end{aligned}$$

No

3)
$$\begin{aligned} f(x) &= -\frac{4}{x-2} \\ g(x) &= \frac{3}{x} + 1 \end{aligned}$$

No

4)
$$\begin{aligned} g(x) &= 3 - \frac{8}{5}x \\ f(x) &= -\frac{5}{8}x + \frac{15}{8} \end{aligned}$$

Yes

Find the inverse of each function.

5)
$$g(x) = \frac{6 - \sqrt[5]{16x}}{2}$$

$$g^{-1}(x) = -2(x-3)^5$$

6)
$$f(x) = \frac{x-1}{4}$$

$$f^{-1}(x) = 4x + 1$$

7)
$$g(x) = -\frac{2}{x+2} + 1$$

$$g^{-1}(x) = \frac{2}{-x+1} - 2$$

8)
$$f(x) = -x^3 + 2$$

$$f^{-1}(x) = \sqrt[3]{-x+2}$$