

Verifying Inverses Using Composition

© 2012 Kuta Software LLC. All rights reserved.

Date _____ Period _____

State if the given functions are inverses.

1)
$$\begin{aligned} h(x) &= \frac{4}{5}x - \frac{8}{5} \\ f(x) &= -2x + 8 \end{aligned}$$

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

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

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

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

6)
$$\begin{aligned} h(x) &= \frac{2x+4}{3} \\ f(x) &= x - 5 \end{aligned}$$

7)
$$\begin{aligned} f(x) &= \frac{7x-17}{2} \\ g(x) &= \frac{2x+17}{7} \end{aligned}$$

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

9)
$$\begin{aligned} f(x) &= \frac{2}{x-3} - 2 \\ g(x) &= \frac{4}{x+1} - 2 \end{aligned}$$

10)
$$\begin{aligned} g(x) &= \frac{3}{2}x - \frac{9}{2} \\ f(x) &= 3 + \frac{2}{3}x \end{aligned}$$

Find the inverse of each function. Check your work using composition.

11)
$$h(n) = \sqrt[3]{n-2} - 2$$

12)
$$h(x) = 1 - \frac{5}{4}x$$

13)
$$f(x) = \sqrt[5]{x+2}$$

14)
$$f(n) = \sqrt[3]{n+2} - 2$$

Verifying Inverses Using Composition

© 2012 Kuta Software LLC. All rights reserved.

Date _____ Period _____

State if the given functions are inverses.

1)
$$\begin{aligned} h(x) &= \frac{4}{5}x - \frac{8}{5} \\ f(x) &= -2x + 8 \end{aligned}$$

No

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

Yes

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

Yes

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

Yes

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

Yes

6)
$$\begin{aligned} h(x) &= \frac{2x+4}{3} \\ f(x) &= x-5 \end{aligned}$$

No

7)
$$\begin{aligned} f(x) &= \frac{7x-17}{2} \\ g(x) &= \frac{2x+17}{7} \end{aligned}$$

Yes

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

No

9)
$$\begin{aligned} f(x) &= \frac{2}{x-3} - 2 \\ g(x) &= \frac{4}{x+1} - 2 \end{aligned}$$

No

10)
$$\begin{aligned} g(x) &= \frac{3}{2}x - \frac{9}{2} \\ f(x) &= 3 + \frac{2}{3}x \end{aligned}$$

Yes

Find the inverse of each function. Check your work using composition.

11)
$$\begin{aligned} h(n) &= \sqrt[3]{n-2} - 2 \\ h^{-1}(n) &= (n+2)^3 + 2 \end{aligned}$$

12)
$$\begin{aligned} h(x) &= 1 - \frac{5}{4}x \\ h^{-1}(x) &= -\frac{4}{5}x + \frac{4}{5} \end{aligned}$$

13)
$$\begin{aligned} f(x) &= \sqrt[5]{x+2} \\ f^{-1}(x) &= x^5 - 2 \end{aligned}$$

14)
$$\begin{aligned} f(n) &= \sqrt[3]{n+2} - 2 \\ f^{-1}(n) &= -2 + (n+2)^3 \end{aligned}$$