Algebra 2 - Task 5.4 Name_____

Verifying Inverses Using Composition

Date_____ Period____

State if the given functions are inverses.

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

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

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

4) $f(x) = -2x - 4$
$g(x) = \frac{-4-x}{2}$

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

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

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

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

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

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

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

Algebra 2 - Task 5.4 Name_____

Verifying Inverses Using Composition

Date_____ Period____

State if the given functions are inverses.

1) $h(x) = \frac{4}{5}x - \frac{8}{5}$
$f(x) = -2x + 8$
No

2) $g(x) = -\frac{1}{2}x - \frac{1}{2}$
$f(x) = -2x - 1$
Yes

3) $f(x) = \frac{x+1}{2}$
$g(x) = 2x - 1$
Yes

4) $f(x) = -2x - 4$
$g(x) = \frac{-4-x}{2}$
Yes

5) $f(x) = 1 + \frac{4}{5}x$
$g(x) = \frac{5}{4}x - \frac{5}{4}$
Yes

6) $h(x) = \frac{2x+4}{3}$
$f(x) = x - 5$
No

7) $f(x) = \frac{7x-17}{2}$
$g(x) = \frac{2x+17}{7}$
Yes

8) $h(x) = -\frac{5}{3}x + 5$
$f(x) = -3x + 3$
No

9) $f(x) = \frac{2}{x-3} - 2$
$g(x) = \frac{4}{x+1} - 2$
No

10) $g(x) = \frac{3}{2}x - \frac{9}{2}$
$f(x) = 3 + \frac{2}{3}x$
Yes

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

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

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

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

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