Name_____ ID: 1

Assignment

Date_____ Period_____

Find the inverse of each function.

1) $g(x) = \dfrac{3x - 3}{5}$

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

3) $h(x) = -\dfrac{1}{x} + 1$

4) $h(x) = \dfrac{3}{x + 1} + 2$

5) $g(x) = \sqrt[3]{-x - 1}$

6) $f(x) = (x - 2)^3$

7) $f(x) = \dfrac{15 + 7x}{5}$

8) $f(x) = -\dfrac{4}{x - 3} + 1$

State if the given functions are inverses.

9) $g(x) = \dfrac{-25 - x}{5}$
$f(x) = -5x - 25$

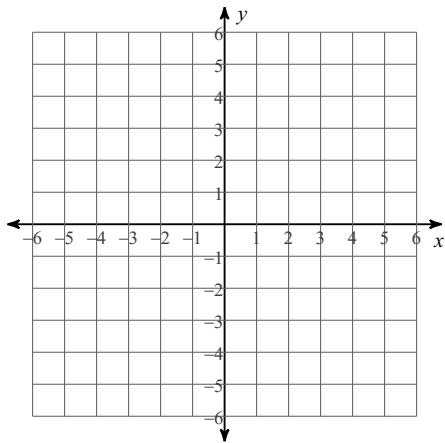10) $g(x) = -\dfrac{4}{5}x + \dfrac{8}{5}$
$f(x) = 2x - 1$

11) $f(x) = -x - 3$
$h(x) = -x + 5$

12) $f(n) = 2 + \dfrac{4}{3}n$
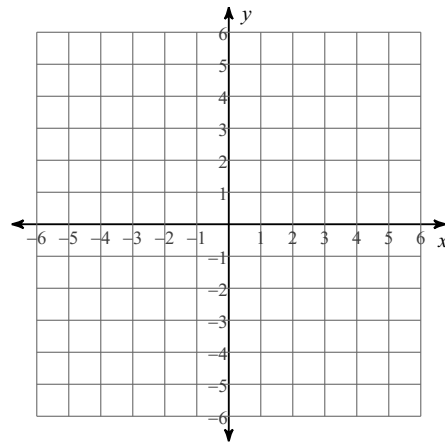
$g(n) = \dfrac{3}{4}n - \dfrac{3}{2}$

13) $g(n) = \dfrac{3}{2}n + \dfrac{15}{2}$

$f(n) = -5 + \dfrac{2}{3}n$

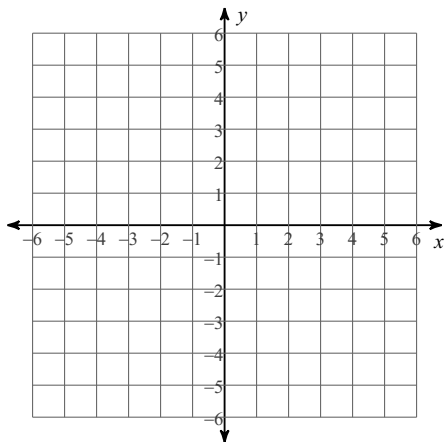**Find the inverse of each function. Then graph the function and its inverse.**
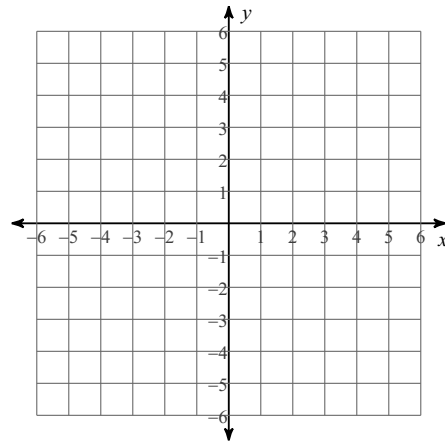
14) $f(x) = -5 - \dfrac{5}{4}x$
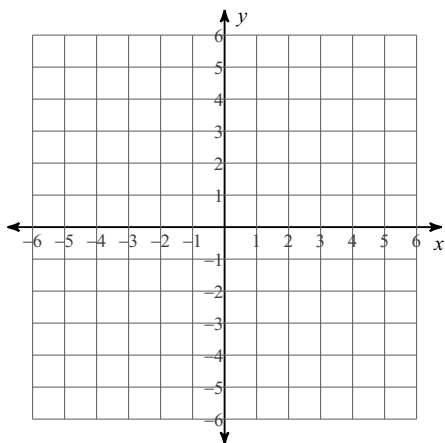
15) $f(x) = \dfrac{2}{x-2} + 2$

16) $h(x) = \dfrac{3x}{2}$

17) $g(x) = \sqrt[5]{x} + 3$

18) $g(x) = -\dfrac{1}{x-2} + 2$

Answers to Assignment (ID: 1)

1) $g^{-1}(x) = \dfrac{3 + 5x}{3}$

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

3) $h^{-1}(x) = -\dfrac{1}{x - 1}$

4) $h^{-1}(x) = \dfrac{3}{x - 2} - 1$

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

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

7) $f^{-1}(x) = \dfrac{5x - 15}{7}$
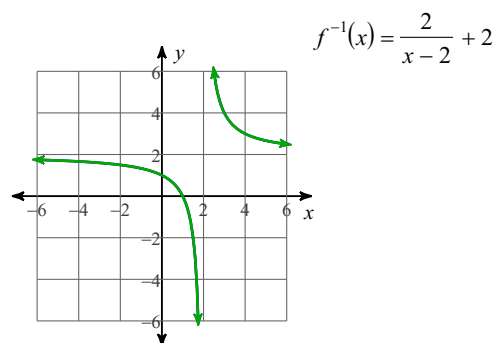
9) Yes

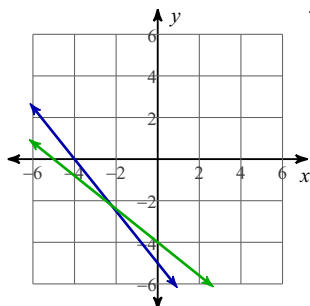10) No

8) $f^{-1}(x) = -\dfrac{4}{x - 1} + 3$
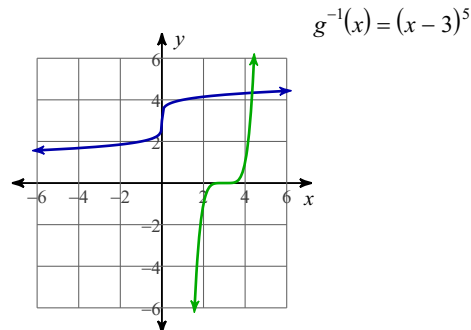
11) No

12) Yes

13) Yes

14)

$f^{-1}(x) = -\dfrac{4}{5}x - 4$

15)

$f^{-1}(x) = \dfrac{2}{x - 2} + 2$

16)

$h^{-1}(x) = \dfrac{2x}{3}$

17)

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

18)

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

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