

Functions and Inverses All 1 (FUNINVALL1)

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State if the given functions are inverses.

$$1) \quad f(x) = \frac{4 - \sqrt[5]{16x}}{2}$$
$$g(x) = -2(x-2)^5$$

$$2) \quad f(x) = -\frac{3x}{4}$$
$$g(x) = -\frac{4x}{3}$$

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

$$4) \quad f(x) = \sqrt[3]{x+3} + 1$$
$$g(x) = -3 + (x-1)^3$$

$$5) \quad g(x) = \frac{\sqrt[5]{16x}}{2}$$
$$f(x) = (x-1)^3 + 3$$

$$6) \quad f(x) = \frac{3}{x+2}$$
$$g(x) = \frac{2}{x+3} + 1$$

$$7) \quad h(x) = -\frac{3}{5}x$$
$$f(x) = \frac{x}{2}$$

$$8) \quad f(x) = \frac{x-3}{2}$$
$$g(x) = 2x + 3$$

$$9) \quad f(x) = \sqrt[3]{x-3}$$
$$g(x) = x^3 + 3$$

$$10) \quad f(x) = \frac{2}{3}x - 2$$
$$h(x) = -5 + \frac{10}{3}x$$

Find the inverse of each function.

$$11) \quad g(x) = \frac{2x+2}{5}$$

$$12) \quad f(x) = 2x + 6$$

13) $f(x) = -x^5 - 1$

14) $f(x) = -\frac{3}{x} - 1$

15) $g(x) = \frac{-7x - 18}{2}$

16) $g(x) = 2 - \frac{2}{5}x$

17) $g(x) = -\frac{3}{x} - 2$

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

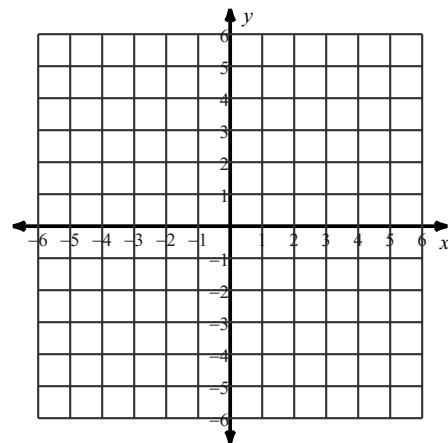
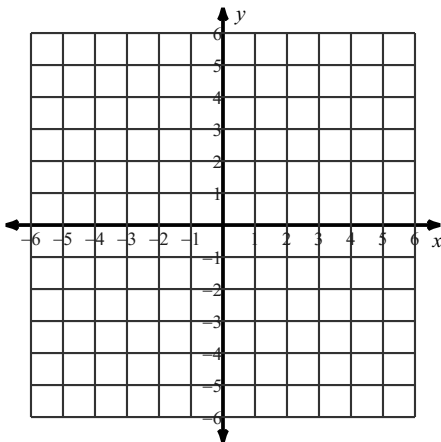
19) $f(x) = 2x^5 + 3$

20) $f(x) = -4x + 16$

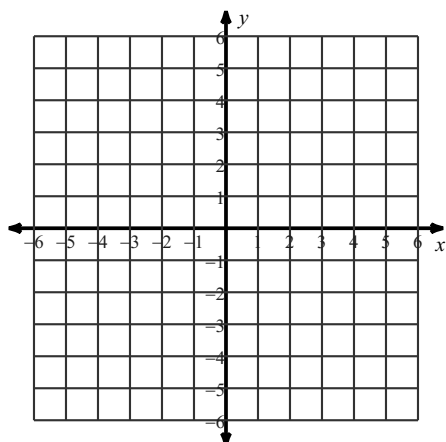
Find the inverse of each function. Then graph the function and its inverse.

21) $g(n) = \frac{3n}{2}$

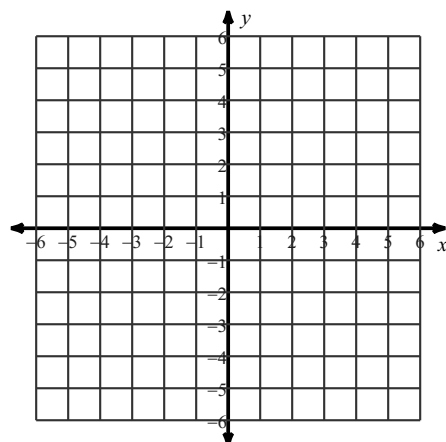
22) $g(x) = \sqrt[3]{x - 2} + 1$



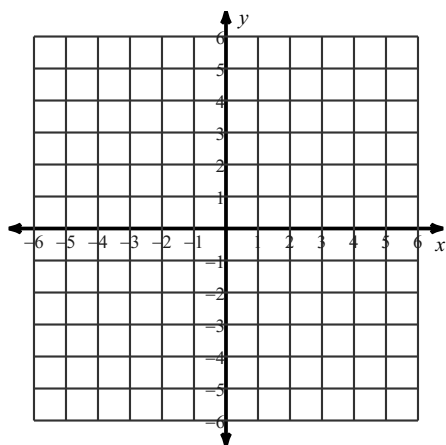
$$23) g(x) = -\frac{1}{x} + 1$$



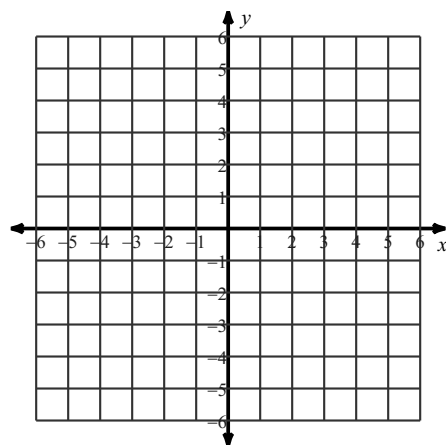
$$24) g(x) = \frac{-2x - 7}{3}$$



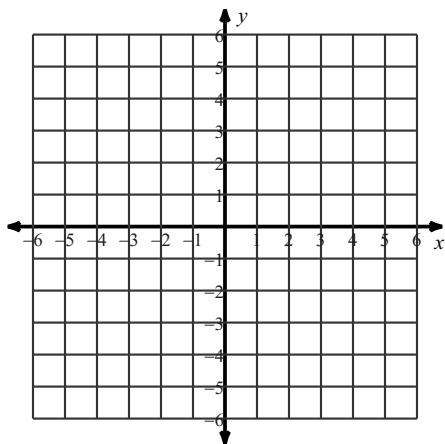
$$25) g(x) = \sqrt[3]{x+3} + 1$$



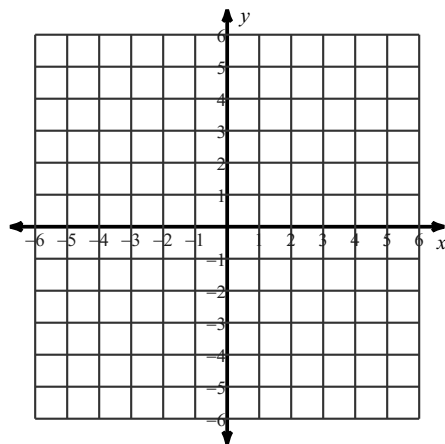
$$26) f(x) = \sqrt[3]{x} + 2$$



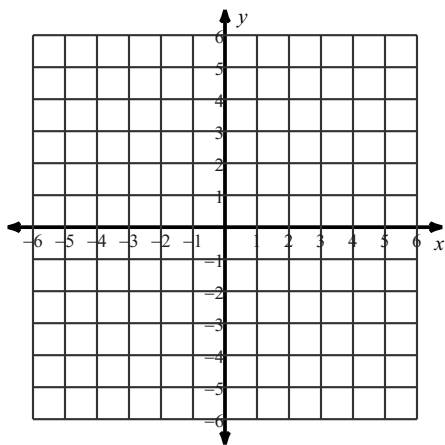
27) $f(x) = -x - 3$



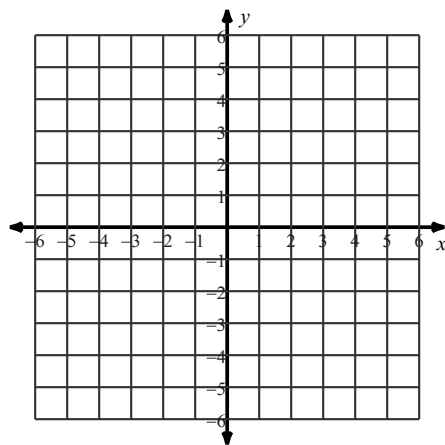
28) $g(x) = (x + 3)^5$



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



30) $f(x) = -\frac{5}{3}x - 5$



Answers to Functions and Inverses All 1 (FUNINVALL1)

- 1) Yes
5) No
9) Yes

- 2) Yes
6) No
10) No

- 3) Yes
7) No

- 4) Yes
8) Yes

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

14) $f^{-1}(x) = -\frac{3}{x+1}$

11) $g^{-1}(x) = \frac{-2+5x}{2}$

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

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

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

15) $g^{-1}(x) = \frac{-2x-18}{7}$

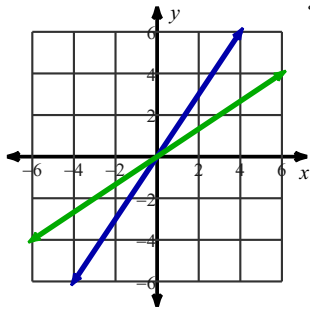
16) $g^{-1}(x) = -\frac{5}{2}x+5$

19) $f^{-1}(x) = \sqrt[5]{\frac{x-3}{2}}$

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

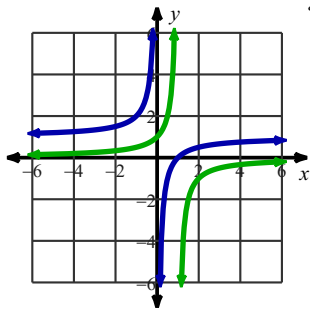
21)

$g^{-1}(n) = \frac{2n}{3}$



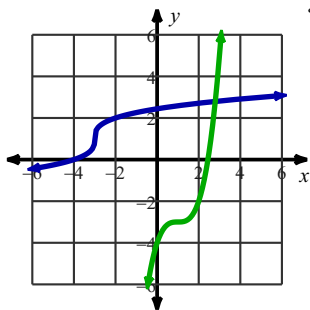
23)

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



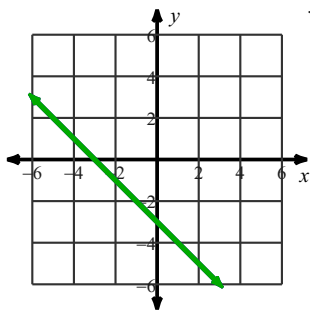
25)

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



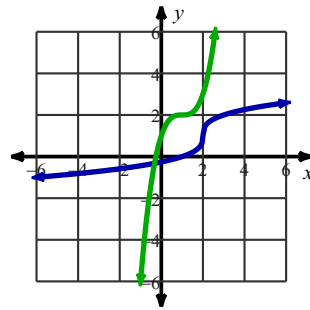
27)

$f^{-1}(x) = -x-3$



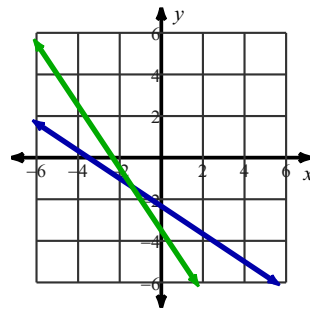
22)

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



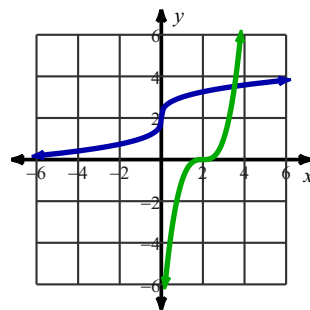
24)

$g^{-1}(x) = \frac{-3x-7}{2}$



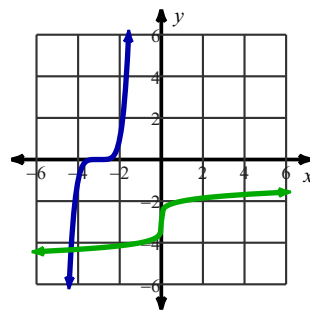
26)

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

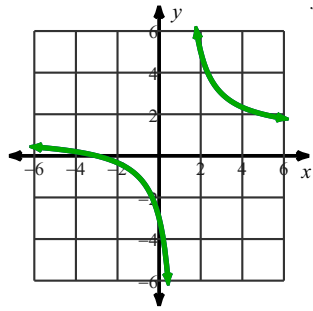


28)

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

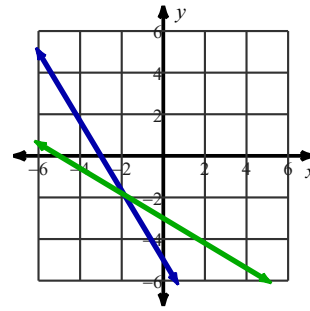


29)



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

30)



$$f^{-1}(x) = -3 - \frac{3}{5}x$$