

Chapter 6 Test Review - Special Review

Date _____ Period _____

Perform the indicated operation.

1) $g(t) = 4t - 2$
 $f(t) = -4t + 5$
Find $g(t) - f(t)$

2) $f(x) = x - 5$
 $g(x) = x^3 - x$
Find $(f \circ g)(x)$

3) $h(t) = -2t + 5$
 $g(t) = 4t - 3$
Find $h(g(4))$

4) $f(x) = -4x + 5$
 $g(x) = 3x - 3$
Find $(f + g)(x^2)$

Simplify.

5) $\sqrt[3]{162m^2n^5}$

6) $(9n^6)^{\frac{3}{2}}$

$$7) (10000p^8)^{\frac{3}{4}}$$

$$8) \sqrt[4]{112m^3n^7}$$

Find the inverse of each function.

$$9) g(n) = \sqrt[3]{n+3} + 1$$

$$10) g(x) = x - 1$$

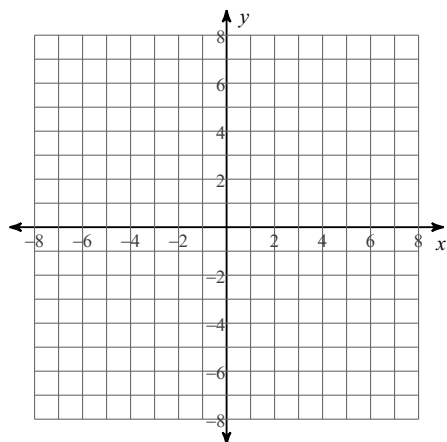
State if the given functions are inverses.

$$11) \begin{aligned} g(x) &= \sqrt[3]{x-3} \\ f(x) &= 3+x^3 \end{aligned}$$

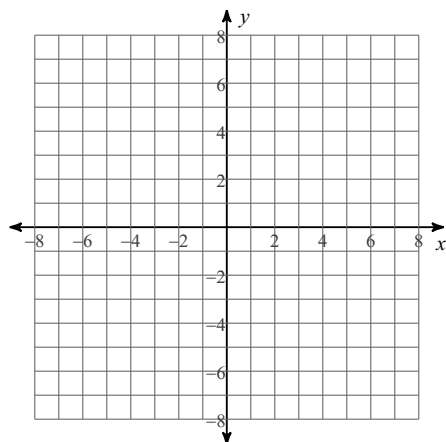
$$12) \begin{aligned} f(x) &= \frac{1}{x-1} - 3 \\ g(x) &= \frac{1}{x+3} + 1 \end{aligned}$$

Identify the domain and range of each. Then sketch the graph.

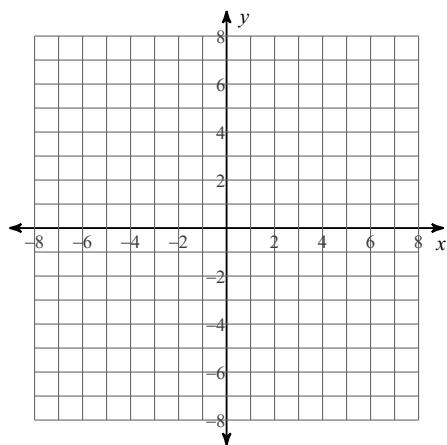
13) $y = \sqrt{x+4} + 3$



14) $y = 3\sqrt{x}$



15) $y = \sqrt[3]{x} - 1$



Solve each equation. Remember to check for extraneous solutions.

16) $\sqrt{72 + m} = m$

17) $r = \sqrt{7r + 81} - 3$

18) $3\sqrt{6n + 1} = 15$

19) $x = \sqrt{-32 + 12x}$

20) $k = \sqrt{-18 + 11k}$

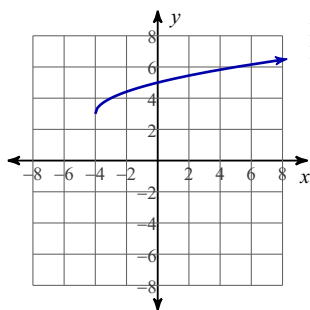
Answers to Chapter 6 Test Review - Special Review

1) $8t - 7$

5) $3n\sqrt[3]{6m^2n^2}$

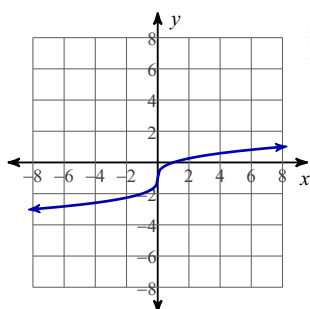
9) $g^{-1}(n) = (n - 1)^3 - 3$

13)



Domain: $x \geq -4$
Range: $y \geq 3$

15)



Domain: { All real numbers. }
Range: { All real numbers. }

18) $\{4\}$

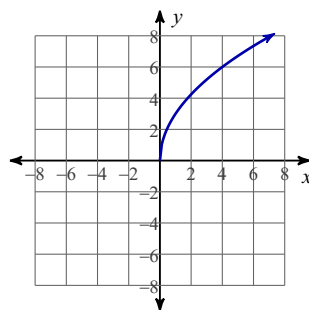
19) $\{4, 8\}$

3) -21

7) $1000p^6$

11) Yes

14)



Domain: $x \geq 0$
Range: $y \geq 0$

16) $\{9\}$

17) $\{9\}$

20) $\{9, 2\}$

21) $\{9, 2\}$