

Practice Test - Apr. 2, 2014

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

1) $m^{\frac{1}{2}} \cdot 2m$

2) $4r^{-2} \cdot 2r^3 \cdot 4r^4$

3) $(x^{-2})^2$

4) $(n^{-2})^0$

Solve each equation. Remember to check for extraneous solutions.

5) $\sqrt{x-2} = \sqrt{4-x}$

6) $\sqrt{6-2a} = \sqrt{2a-2}$

7) $3 = 3\sqrt{v+4}$

8) $\sqrt{16n} = 4$

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

9) $y = \sqrt{x} - 4$

10) $y = \sqrt{x+4}$

Perform the indicated operation.

11) $g(n) = 4n + 2$
 $h(n) = n^3 + 5n$
 Find $g(n) - h(n)$

12) $g(x) = x + 1$
 $f(x) = x^2 - 5$
 Find $(g \circ f)(x)$

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

14) $g(a) = a - 5$
 $h(a) = a^2 + 3$
 Find $(g \cdot h)(a)$

15) $f(n) = 3n - 3$
 $g(n) = n^2 - 5$
 Find $(f \circ g)(-4)$

16) $g(a) = 3a - 1$
 $h(a) = 3a - 2$
 Find $(g \cdot h)(-4)$

Find the inverse of each function.

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

18) $f(x) = -x + 3$

19) $g(x) = 2 + \frac{3}{2}x$

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

State if the given functions are inverses.

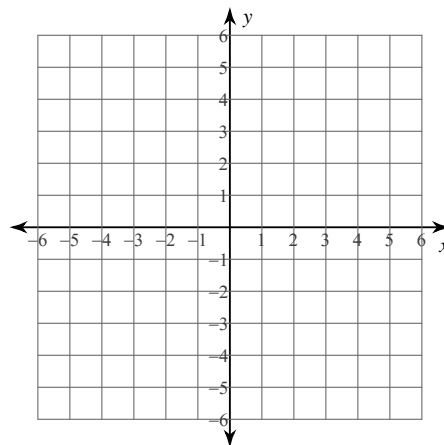
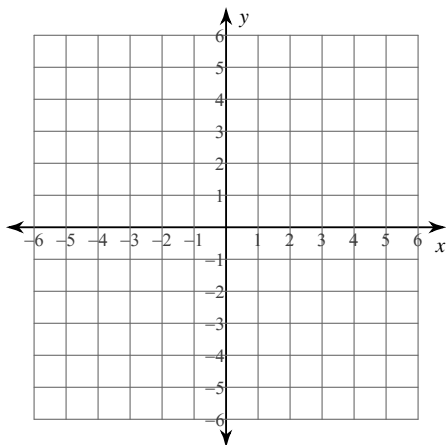
21) $f(x) = x + 2$
 $g(x) = x - 2$

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

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

23) $g(x) = \frac{2x + 14}{5}$

24) $g(x) = -\frac{2}{7}x - \frac{8}{7}$



Answers to Practice Test - Apr. 2, 2014

1) $2m^{\frac{3}{2}}$

2) $32r^5$

3) $\frac{1}{x^4}$

4) 1

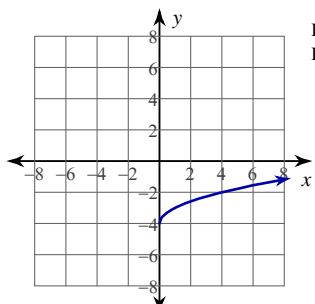
5) {3}

6) {2}

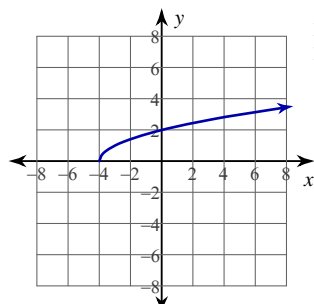
7) {-3}

8) {1}

9)



Domain: $x \geq 0$
Range: $y \geq -4$



Domain: $x \geq -4$
Range: $y \geq 0$

11) $-n^3 - n + 2$

12) $x^2 - 4$

13) $4x^3 - 16x + 2$

14) $a^3 - 5a^2 + 3a - 15$

15) 30

16) 182

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

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

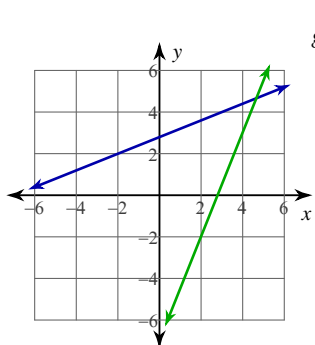
19) $g^{-1}(x) = \frac{2}{3}x - \frac{4}{3}$

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

21) Yes

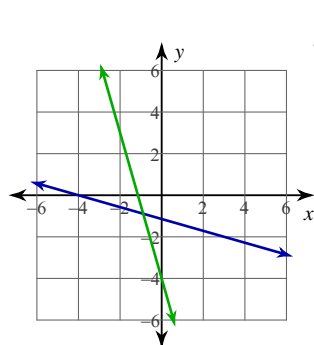
22) No

23)



$g^{-1}(x) = \frac{-14 + 5x}{2}$

24)



$g^{-1}(x) = -4 - \frac{7}{2}x$