

Answer Key

Lesson 6.3

Practice Level C

1. $2x^2 + x - x^{1/2} - 4$ 2. $6x^2 + 2x^{1/2} - 5$
3. $4x^2 + x - 5x^{1/2} + 1$
4. $2x^2 - x + 7x^{1/2} - 6$ 5. $2x^2 - 4x^{1/2} + 5$
6. $-4x^2 + x - 3x^{1/2} + 1$ 7. $-3x^{5/3} - \frac{3}{x^{1/3}}$
8. $x^{5/2} + x^{1/2}$ 9. $-3x^{1/6}$ 10. $\frac{-x^{7/3} - x^{1/3}}{3}$
11. $x^{3/2} + \frac{1}{x^{1/2}}$ 12. $\frac{x^{5/6}}{3}$
13. $\frac{2 - x^{1/2}}{x}$; positive real numbers
14. $\left(\frac{3}{x-1}\right)^{1/2}$; all real numbers greater than 1
15. $\frac{2x^2 - 7x + 5}{9}$; all real numbers
16. $\frac{1}{(2x^2 - x)^{1/2}}$;
all real numbers less than 0 and greater than $\frac{1}{2}$
17. $\frac{2x^2 - x - 1}{3}$; all real numbers
18. $x^{1/4}$; positive real numbers 19. True
20. False; *Sample answer:* let $f(x) = x$ and $g(x) = x + 1$ 21. True
22. False; *Sample answer:* let $f(x) = x$ and $g(x) = x + 1$
23. False; *Sample answer:* let $f(x) = \sqrt{x}$ and $g(x) = x + 1$
24. False; *Sample answer:* let $f(x) = x + 1$
25. *Sample answer:* $f(x) = \sqrt[3]{x}$, $g(x) = x + 1$
26. *Sample answer:* $f(x) = x^3 + 2$, $g(x) = \sqrt{x}$
27. *Sample answer:* $f(x) = \frac{x+1}{x^2}$, $g(x) = x - 1$
28. Let $f(x) = 0.7x$, $g(x) = x - 10$, $h(x) = 0.9x$
 $f(g(h(x))) = 0.63x - 7$
 $f(h(g(x))) = 0.63x - 6.3$
 $g(f(h(x))) = 0.63x - 10$
 $g(h(f(x))) = 0.63x - 10$
 $h(f(g(x))) = 0.63x - 6.3$
 $h(g(f(x))) = 0.63x - 9$

The store will most likely deduct the \$10 coupon first and then take the 30% and 10% discount in any order.