Tutorial 2 (week 2)

Exercise 6.2

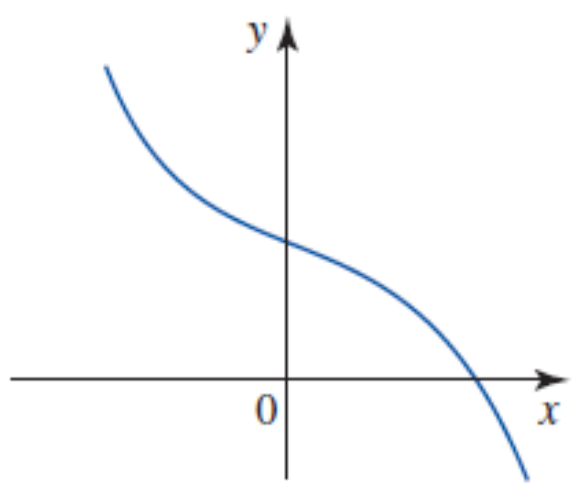
In Exercise 1-6, show that f and g are inverse of each other by verifying that $f[g(x)] = x$ *and* $g[f(x)] = x$.

5. $f(x) = 4(x+1)^{2/3}$, *where* $x \geq -1$;

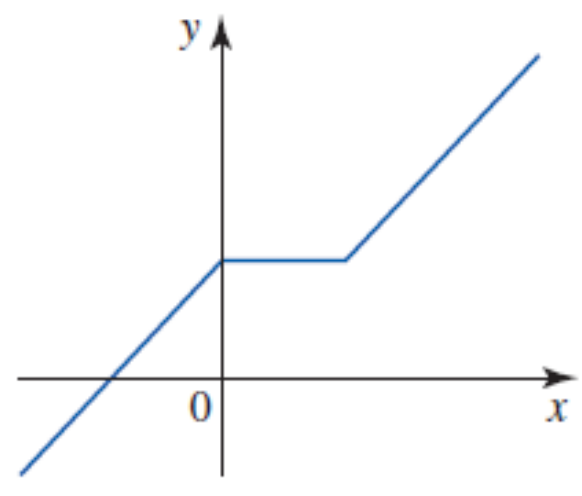
$g(x) = \frac{1}{8}(x^{3/2} - 8)$, *where* $x \geq 0$

In Exercise 7-12, you are given the graph of a function f. Determine whether f is one–to–one.

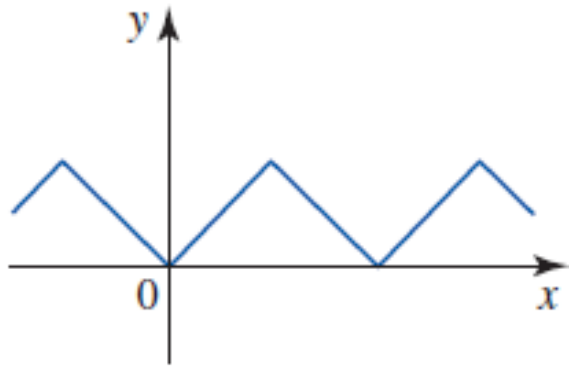
7.



9.



11.



In Exercise 13-18, determine whether the function is one–to–one.

15. $f(x) = \sqrt{1-x}$

17. $f(x) = -x^4 + 16$

In Exercise 29-34, find the inverse of f. Then sketch the graph of f and f^{--1} on the same set of axes.

29. $f(x) = 3x - 2$

31. $f(x) = x^3 + 1$

Exercise App A

In Exercise 11-28, find the values of x that satisfy the inequality (inequalities).

21. $(x+3)(x-5) \le 0$

27. $\dfrac{x-2}{x-1} \le 2$

23. $(2x-3)(x-1) \ge 0$

In Exercise 29-38, evaluate the expression.

31. $\dfrac{|-12+4|}{|16-12|}$

37. $|\sqrt{2}-1| + |3-\sqrt{2}|$

In Exercise 55-64, solve the inequality.

59. $|x+3| \ge 2$

61. $|2x+3| \le 0.2$

65. If $|x - 1| < 0.2$ and $|y - 4| < 0.2$, find an upper bound for $|x + y - 5|$.