

In Exercises 9–38, find the absolute maximum value and the absolute minimum value, if any, of each function.

9. $f(x) = 2x^2 + 3x - 4$

10. $g(x) = -x^2 + 4x + 3$

11. $h(x) = x^{1/3}$

12. $f(x) = x^{2/3}$

13. $f(x) = \frac{1}{1 + x^2}$

14. $f(x) = \frac{x}{1 + x^2}$

15. $f(x) = x^2 - 2x - 3$ on $[-2, 3]$

16. $g(x) = x^2 - 2x - 3$ on $[0, 4]$

17. $f(x) = -x^2 + 4x + 6$ on $[0, 5]$

18. $f(x) = -x^2 + 4x + 6$ on $[3, 6]$

19. $f(x) = x^3 + 3x^2 - 1$ on $[-3, 2]$

20. $g(x) = x^3 + 3x^2 - 1$ on $[-3, 1]$

21. $g(x) = 3x^4 + 4x^3$ on $[-2, 1]$

22. $f(x) = \frac{1}{2}x^4 - \frac{2}{3}x^3 - 2x^2 + 3$ on $[-2, 3]$

$$23. f(x) = \frac{x+1}{x-1} \text{ on } [2, 4] \quad 24. g(t) = \frac{t}{t-1} \text{ on } [2, 4]$$

$$25. f(x) = 4x + \frac{1}{x} \text{ on } [1, 4]$$

$$26. f(x) = 9x - \frac{1}{x} \text{ on } [1, 3]$$

$$27. f(x) = \frac{1}{2}x^2 - 2\sqrt{x} \text{ on } [0, 3]$$

$$28. g(x) = \frac{1}{8}x^2 - 4\sqrt{x} \text{ on } [0, 9]$$

$$29. f(x) = \frac{1}{x} \text{ on } (0, \infty) \quad 30. g(x) = \frac{1}{x+1} \text{ on } (0, \infty)$$

$$31. f(x) = 3x^{2/3} - 2x \text{ on } [0, 3]$$

$$32. g(x) = x^2 + 2x^{2/3} \text{ on } [-2, 2]$$

$$33. f(x) = x^{2/3}(x^2 - 4) \text{ on } [-1, 2]$$

$$34. f(x) = x^{2/3}(x^2 - 4) \text{ on } [-1, 3]$$

$$35. f(x) = \frac{x}{x^2 + 2} \text{ on } [-1, 2]$$