

Exercise 54

In Exercises 47–62, say whether the function is even, odd, or neither. Give reasons for your answer.

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

Solution

The function is odd because

$$\begin{aligned} g(-x) &= \frac{(-x)}{(-x)^2 - 1} \\ &= \frac{-x}{x^2 - 1} \\ &= -\frac{x}{x^2 - 1} \\ &= -g(x). \end{aligned}$$

This is reflected in the graph by the symmetry about the origin.

