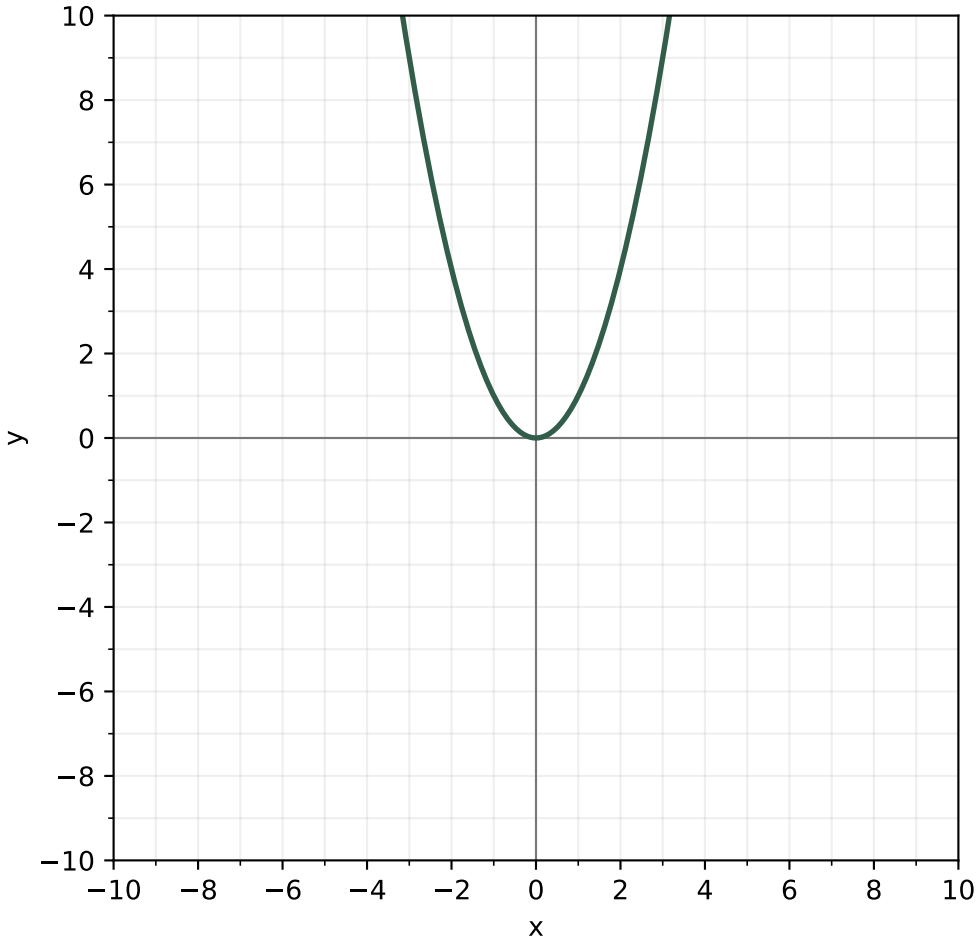
Even and Odd Functions: Graph Symmetry

ANSWER / CASE 1

For f(x) = x^2 on all real numbers, classify the function as even, odd, or neither. Verify algebraically.

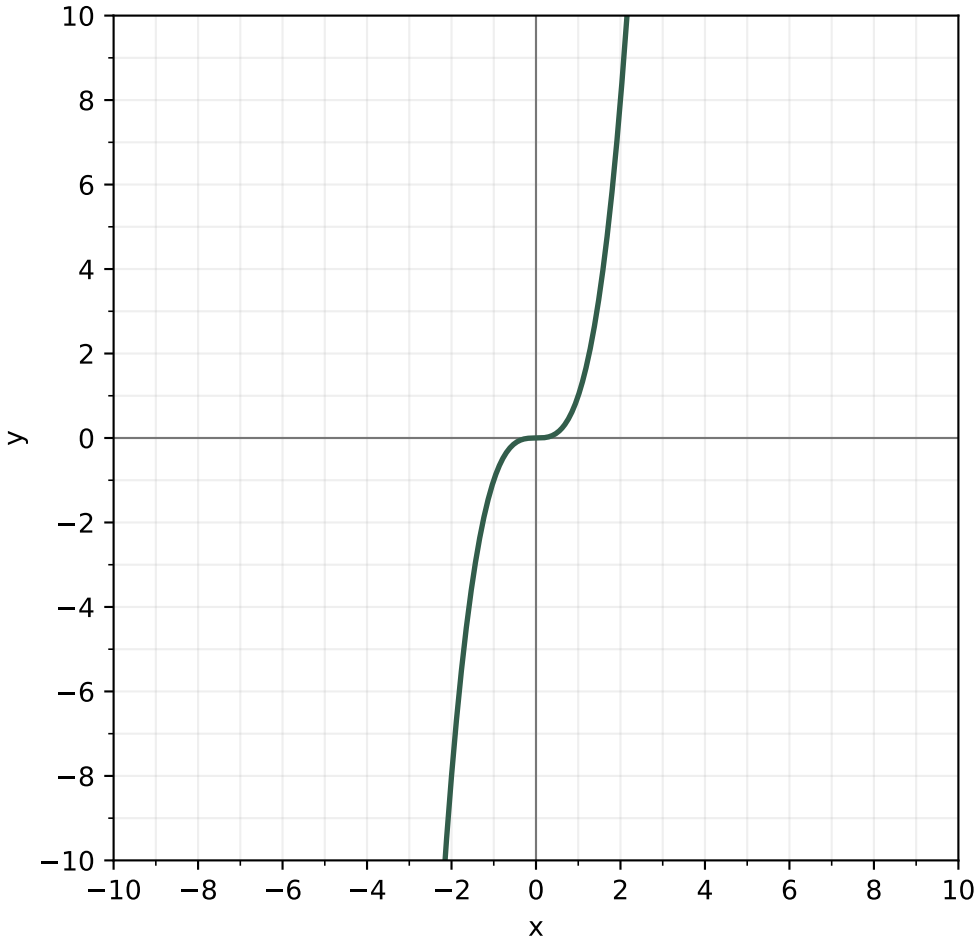


Even
1. f(-x)=(-x)^2=x^2=f(x).
2. The graph has y-axis symmetry.

Even and Odd Functions: Graph Symmetry

ANSWER / CASE 2

For f(x) = x^3 on all real numbers, classify the function as even, odd, or neither. Verify algebraically.

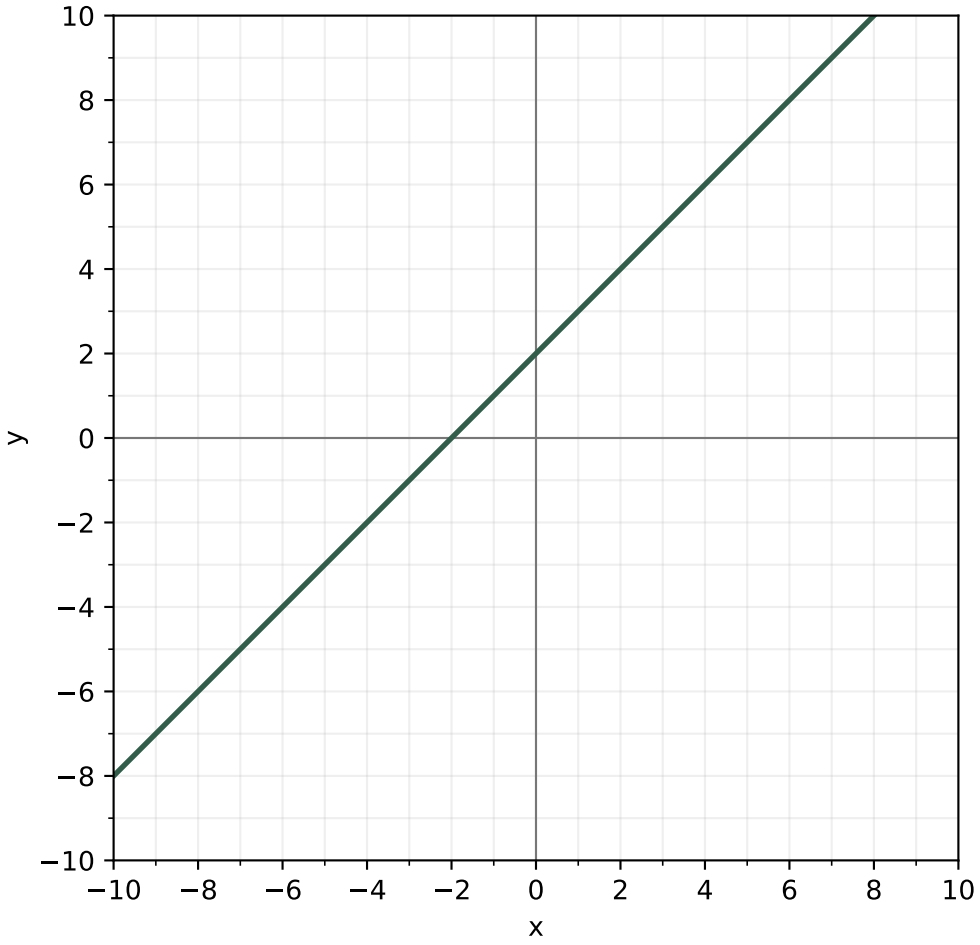


Odd
1. f(-x)=(-x)^3=-x^3=-f(x).
2. The graph has origin symmetry.

Even and Odd Functions: Graph Symmetry

ANSWER / CASE 3

For f(x) = x+2 on all real numbers, classify the function as even, odd, or neither. Verify algebraically.

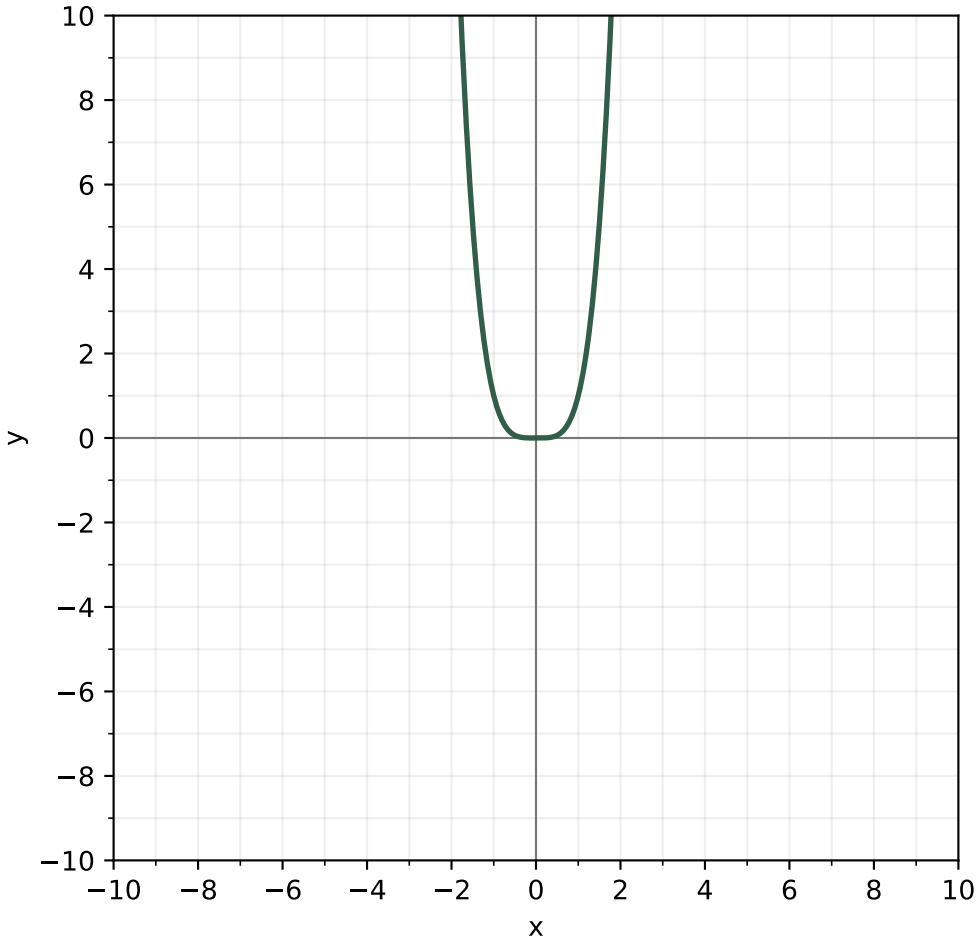


Neither
1. f(-x)=-x+2 differs from both x+2 and -x-2.
2. It has neither required symmetry.

Even and Odd Functions: Graph Symmetry

ANSWER / CASE 4

For f(x) = x^4 on all real numbers, classify the function as even, odd, or neither. Verify algebraically.



Even
1. f(-x)=(-x)^4=x^4=f(x).
2. The graph has y-axis symmetry.