

## Odd and Even Functions

- A function  $f(x)$  is even if and only if \_\_\_\_\_ for every  $x$  in the domain of  $f(x)$ . This means that the graph of  $f(x)$  is symmetric about the  $y$ -axis.

Examples of even functions:

- A function  $f(x)$  is odd if and only if \_\_\_\_\_ for every  $x$  in the domain of  $f(x)$ . This means that the graph of  $f(x)$  is symmetric about the origin.

Examples of odd functions:

- Many functions are neither odd nor even.

Example 1: Determine whether  $f(x) = 2x^3 - 7x$  is even, odd, or neither odd nor even. Show your work.

Example 2: Determine whether  $g(x) = \frac{-5}{3x^4 - 8}$  is even, odd, or neither odd nor even. Show your work.