

Student: Arfaz Hossain**Instructor:** UVIC Math**Date:** 10/07/21**Course:** MATH 100 (A01, A02, A03) Fall 2021**Book:** Thomas' Calculus Early Transcendentals, 14e**Time:** 08:44

Determine algebraically whether the given function is even, odd, or neither.

$$h(x) = \frac{-7x^3}{2x^2 - 4}$$

To determine whether h is even, odd, or neither, replace x by $-x$ in $h(x) = \frac{-7x^3}{2x^2 - 4}$.

$$h(-x) = \frac{-7(-x)^3}{2(-x)^2 - 4} = \frac{7x^3}{2x^2 - 4} = -h(x)$$

A function f is even if, for every number x in its domain, the number $-x$ is also in the domain and $h(-x) = h(x)$.

A function f is odd if, for every number x in its domain, the number $-x$ is also in the domain and $h(-x) = -h(x)$.

A function is neither even nor odd if $h(-x) \neq h(x)$ and $h(-x) \neq -h(x)$.

In this problem, $h(-x) = -h(x)$. Therefore, the function $h(x) = \frac{-7x^3}{2x^2 - 4}$ is odd.