

Problem 1. Project Description

Abstract

The arccosine of x is defined as the inverse function of cosine of x where x lies in the range of $-1 \leq x \leq 1$

Domain and range: The domain of the arccosine function is from -1 to $+1$ inclusive and the range is from 0 to π radians inclusive (or from 0 to 180). The arccosine function can be extended to the complex numbers, in which case the domain is all complex numbers.

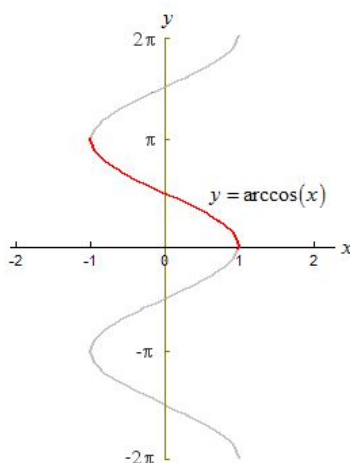


Figure 1: Figure 1: $y = \arccos(x)$

Characteristics of the function $y = \arccos(x)$ that make it unique from other inverse trigonometric functions:

1. Domain is in the range of $[-1, 1]$.
2. Range is part of $[0, \pi]$.
3. It is neither even nor odd function.
4. It is a decreasing function.

[References]

1. https://en.wikipedia.org/wiki/Inverse_trigonometric_functions