Function arccos(x)

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Problem 1

Function arccos(x)

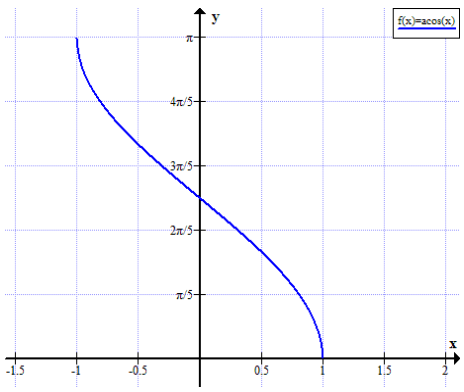
The arccosine(x) function is the inverse of cosine of x. It returns the angle at which the cosine is x. It is called by the abbreviated form acos(x). $\arccos(x) = \cos -1(x)$

Domain and Co-Domain of arcos(x)

$$y = \arccos(x) \tag{1}$$

Domain: $-1 \leq x \leq 1$
Range: $0° \leq y \leq 180°$

Graph of arccos(x)



Characteristics of arccos(x)

- The value of angle is the highest at -1 and it decreases and becomes zero at +1.
- The arccosine(x) is a one-to-one function. Its range is limited to 180 because after that values repeat itself which violates one-to-one property.
- The function can be used to calculate the base angle in a triangle by calculating base/hypotenuse to that angle if we know cos-1 of that value.

References

- https://www.mathopenref.com/arccos.html
- https://www.rapidtables.com/math/trigonometry/arccos.html