

# Arbitrary Order Derivatives and Integral of Sine and Tan Cardinal Functions

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**Abstract**—*In this paper, we have calculated arbitrary order derivatives and integral of sine and tan cardinal function. Here we use different approach to calculate the fractional order derivatives. The subject of fractional calculus has applications in diverse and widespread fields of engineering and science such as electromagnetics, viscoelasticity, fluid mechanics, electrochemistry, biological population models, optics, and signals processing. It has been used to model physical and engineering processes that are found to be best described by fractional differential equations.*

**Keywords:** *Cardinal Functions, Fractional Calculus, Fractional Solutions, Fractional derivatives.*