Ministry of Higher Education and Scientific Research
Mohamed Boudiaf University of M'sila
Institute of Urban Techniques Management
Department of Architecture

Application of Integrals in Architecture Problems

Simple Integrals

Application: Calculating the Load Distribution Along a Beam

Consider a beam of length L with a linear load distribution that varies along its length. The load per unit length is given by $w(x) = kx$, where k is a constant.

Double Integrals

Application: Calculating the Floor Area of an Irregularly Shaped Room

Consider a room with a floor plan defined by the region R in the xy-plane. The room is bounded by $y = x^2$ and $y = 2 - x^2$.

Triple Integrals

Application: Calculating the Volume of a Dome