Application of integration pdf

y = x4, x = 1, x =and x-axis. Then () Volumeh π r2x2 h2 dx π r2 h2 xhπr2h Example Find the volume of a pyramid of height h and square base of side =2 between Miscellaneous Exercise on ChapterFind the area under the given curves and given lines: y = x2, x = 1, x =and x-axis. y = x4, x = 1, x =and x-axis. With very little change we can APPLICATION OF INTEGRALS Fig This area is called the elementary area which is located at an arbitrary position within the region which is specified by some value of x The base of the triangle isunits and the vertical height will beunits. Choose the correct answer in the following Exercises fromto 5 ChapterApplications of IntegrationFigure r PSfrag replacements h x σ S x p Figure PSfrag replacements h x σ S x p ρas a function of x by similar triangles: () ρ r x h so ρ rx h. Hence the area of A = ×=square unitsNow consider the definite integral ∫=[-+] =4-−= a) Set up the integral for volume using integration dx b) Set up the integral for volume using integration dy c) Evaluate (b). The total moment is the same as if the whole mass M is placed at Z The base of the triangle isunits and the vertical height will beunits. d) (optional) Show that the (a) and (b) are the same using Miscellaneous Exercise on ChapterFind the area under the given curves and given lines: y = x2, x = 1, x =and x-axis. Hence the area of A = ×=square unitsNow consider the definite integral ∫=[-+] =4-−=square units We can conclude that the area of the region under the line. In the continuous case, the mass distribution is given by the density p(z).The total mass is M = J p(x)dx and the center of mass is at Z= J xp(x)dx/ p = x, the integrals fromto Applications of Integration Area between ves cur We have seen how integration can be used to find an area between a curve and the x-axis. Sketch the graph of y = x +and evaluateFind the area bounded by the curve y = sin x between x =and x = 2π. Find the area between the curves y = x and y = xFind the area of the region lying in the first quadrant and bounded by y = 4x2, = 0, y =and y = 4 In the continuous case, the mass distribution is given by the density p(z).The total mass is M = J p(x)dx and the center of mass is at Z= J xp(x)dx/ p = x, the integrals fromto L give M = ~ ~ and Ixp(x)dx= ~ ~ andZ=L/S.

Difficulté **Difficile**

Durée **922 minute(s)**

Catégories **Décoration, Électronique, Énergie**

Coût **845 EUR (€)**

Sommaire

Étape 1 -

Commentaires

Matériaux

Outils

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