Calculus with Analytic Geometry II

Thomas R. Cameron

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1 Calculus of Parametric Equations Worksheet

Find the equations of the tangent lines to the unit circle that satisfy the following

   I. horizontal,

  II. vertical,

 III. slope of 1.

a. Find the arc length of the curve parameterized by $x = t^2$, $y = \frac{t^3}{3}$, $0 \le t \le 1$.

b. Find the arc length of a circle of radius r.

c. Find the area of the surface of revolution formed by revolving the upper half of the unit about the x-axis.