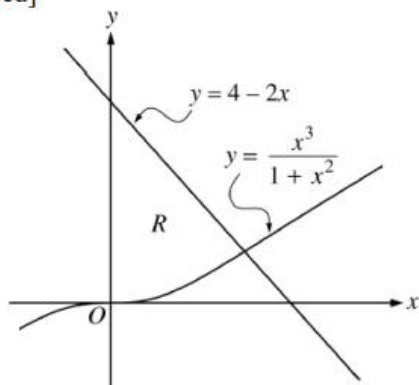


2002 Form B #1 [calculator allowed]



1. Let R be the region bounded by the y -axis and the graphs of $y = \frac{x^3}{1 + x^2}$ and $y = 4 - 2x$, as shown in the figure above.
 - (a) Find the area of R .
 - (b) Find the volume of the solid generated when R is revolved about the x -axis.
 - (c) The region R is the base of a solid. For this solid, each cross section perpendicular to the x -axis is a square. Find the volume of this solid.
 - (d) Find the volume of the solid generated when R is revolved about the line $y = -1$.

