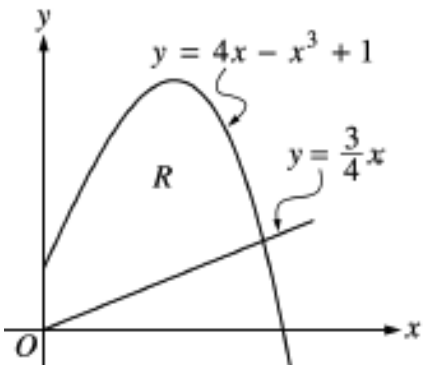


CALCULATORS MAY BE USED. SET-UP MUST BE WRITTEN PROPERLY.

1. Let R be the region in the first quadrant bounded by the y -axis and the graphs of $y = 4x - x^3 + 1$ and $y = \frac{3}{4}x$.

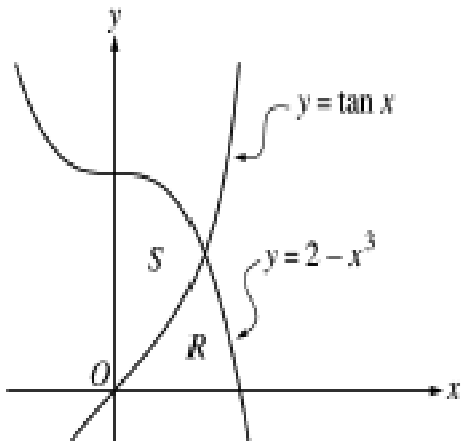


- a. Find the area of R .

- b. Find the volume of the solid generated when R is revolved about the x -axis.

- c. R is the base of a Solid whose cross-sections perpendicular to the x -axis are semi-circles. Find the volume of this solid

2. Let R and S be the regions as shown below.



a. Find the Area of R.

b. Find the area of S.

c. Find the Volume of the solid generated when S is Revolved about the x-axis.

d. Find the Volume of the solid generated when R is Revolved about the x-axis.