Name: _____ AB Calculus

Finding Volumes of Solids with Known Cross-Sections

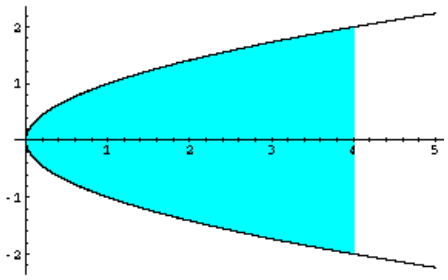
1. Find the volume of a solid with a base bounded by the equations $y = \sqrt{x}$ and y=1 and the x=4 if the cross sections perpendicular to the x-axis are squares. (1.167)

2. A solid has its base is the region bounded by the lines x + y = 4, x = 0 and y = 0 and the cross section is perpendicular to the x-axis are equilateral triangles. Find its volume. (18.475)

3. Find the volume of the solid whose base is the region inside the circle $x^2 + y^2 = 9$ if cross sections taken perpendicular to the y-axis are squares. (144)

4. Find the volume of the solid whose base is the region bounded by the lines $x + 4y = 4$, $x = 0$, and $y = 0$, if the cross sections taken perpendicular to the x - axis are semicircles. (.524)

5. Find the volume of the solid that lies between planes perpendicular to the x-axis at x = 0 and x = 4. The cross sections perpendicular to the x-axis between these planes run from one side of the parabola $x = y^2$ to the other. The cross sections are squares with bases in the xy-plane. (32)



6. Find the volume obtained by rotating the graphs of $f(x) = 9 - x^2$ and y = 12 for $0 \leq x \leq 3$ about the line y = 15. (746.442)