

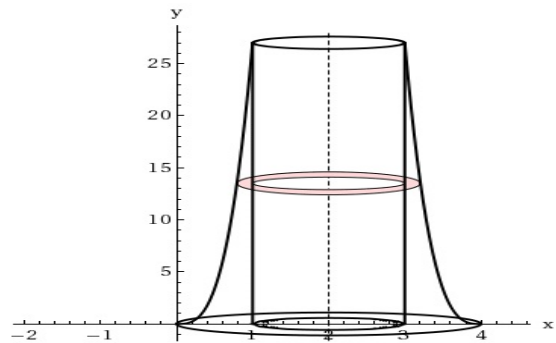
DIRECTIONS To receive full credit, you must provide complete legible solutions to the following problems in the space provided. Transfer all your answers to the space provided on the test paper.

1. Set up an integral for the volume of solid of revolution that results from revolving about the line $y = 0$, the given curve.

$$y = \frac{x}{x^2 + 4}, 0 \leq x \leq 2, \text{ then find its value.}$$

2. Set up an integral for the volume V of the solid obtained by rotating the region bounded by the given curves about the specified line, then evaluate.

$$y = 27x^3, y = 0, x = 1; \text{ about } x = 2$$



3. Set up an integral for the volume of the solid with base bounded by
 $x + 3y = 3, x - 3y = 3, x = 0$.
Cross sections of the solid perpendicular to the x axis are isosceles right triangles with hypotenuse on the base.

4. Set up an integral for the volume of the solid with base bounded by
 $x^2 + y^2 = 4, y = 0, x \geq 0, y \geq 0$
Cross sections of the solid perpendicular to the x axis are isosceles right triangles with one leg on the base. This is a circular wedge sharp on the circular side, with front view, a rectangle, and a side view, an isosceles triangle.