5A VOLUME WORKSHEET

(1) Briefly and simply describe in your own words (not in mathematical formulas) how the method of disks works and how the method of shells works.

(2) The region bounded by $y = \frac{1}{3}x$ and $y = \sqrt{x}$ is revolved about the x-axis. Find the volume of the solid, using the method of: (a) cylindrical shells (b) disks/washers

(3) The region bounded by $y = x$ and $y = x^2 - 2$ and to the right of x=0 is revolved about the y-axis. Find the volume of the solid, by integrating
(a) with respect to x   (b) with respect to y

(4) The region enclosed by $y = 4 - x^2$ and $y = 0$ is revolved about the line y=4. Find the volume of the solid, using the method of: (a) cylindrical shells (b) disks/washers