

(1) [8 points] Determine the area in the first quadrant enclosed by $y = 1/x$, $y = x$ and $y = x/4$.

(2) [7 points] The region in the first quadrant enclosed by $y = x^3$ and $y = \sqrt{x}$ is rotated about the line $y = 1$. Determine the volume of the resulting solid. (Note: the two given curves intersect at $(0, 0)$ and $(1, 1)$.)