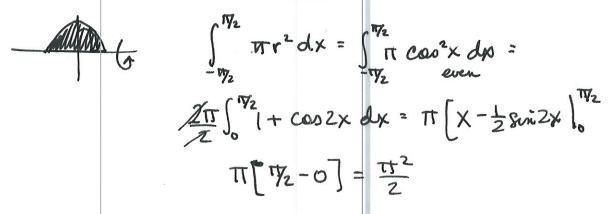
Instructions: Show all work. Answers without work required to obtain the solution will not receive full credit. Some questions may contain multiple parts: be sure to answer all of them. Give exact answers unless specifically asked to estimate.

1. Find the volume of the solid of revolution described by $y = \cos x$, y = 0, $\left[-\frac{\pi}{2}, \frac{\pi}{2} \right]$ revolved around the *x*-axis. [Hint: use cylindrical disk method.]



2. Find the volume of the solid of revolution described by $y = \sqrt[3]{x}$, y = 0, x = 1 revolved around the y-axis. [Hint: use cylindrical shells.]

$$\int_{0}^{1} 2\pi \cdot 3x \times dx =$$

$$2\pi \int_{0}^{1} x^{4/3} dx = 2\pi \cdot \frac{3}{7} x^{7/3} \Big|_{0}^{1} = \left[\frac{6\pi}{7}\right]$$