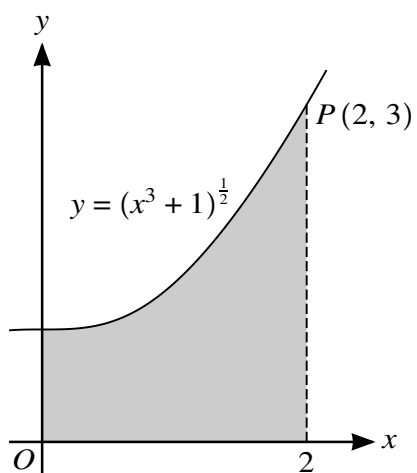


2



The diagram shows part of the curve $y = (x^3 + 1)^{\frac{1}{2}}$ and the point $P(2, 3)$ lying on the curve. Find, showing all necessary working, the volume obtained when the shaded region is rotated through 360° about the x -axis. [4]