

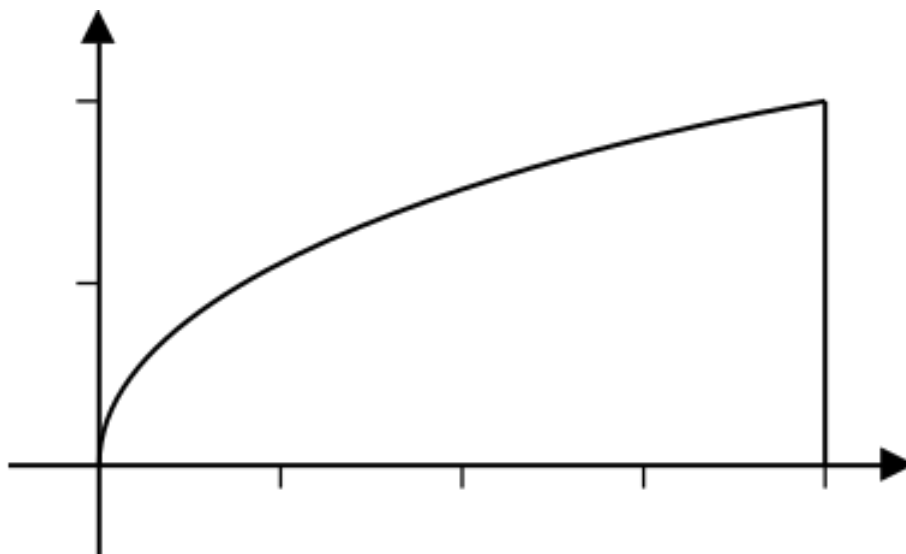
**Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals**

TRENT UNIVERSITY, Summer 2025 (S62)

**Quiz #10 – A Solid of Revolution**

*Due on Thursday, 24 July.\**

Consider the region between  $y = \sqrt{x}$  and  $y = 0$ , where  $0 \leq x \leq 4$ .



1. Sketch the solid obtained by revolving the given region about the  $y$ -axis. [1]
2. Find the volume of this solid. [4]

Little Jack Horner  
Sat in the corner  
Trying to work out  $\pi$ .  
He said 'It's minus the logarithm  
Of minus one to the  $i$ .'

*A mathematics nursery rhyme from Seven years of MANIFOLD 1968-1980.*

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\* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If submission via Blackboard fails, please submit your work to your instructor by email or on paper. You may work together and look things up, so long as you write up your submission by yourself and give due credit to your collaborators and any sources you actually used.