

Math102 Term172
Sec 31 Quiz 3

Name	ID	Sr
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Q1)(5points) Use the method of cylindrical shell to find the volume of the solid obtained by rotating the region bounded by the curves

$$y = \sin\left(\frac{\pi}{2} x\right), y = 0, 0 \leq x \leq 1 \text{ about the } y \text{-axis}$$

Q2)(5points) If the average value of the function $f(x) = 9x^2 - 10x + 1$ on the interval $[a, 0]$ is equal to 3. Then find all such numbers a

Q3) (5points) Find $\int x^3 (\ln x)^2 dx$