

Homework 9 - Math 142

Name: _____

1. Find the volume of the region under $y = \sqrt{\sin x}$ from $x = 0$ to $x = \pi$ when it is revolved around the x-axis.
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2. Find the volume of the region under the curve $y = \frac{1}{x}$ from $x = 1$ to $x = 2$ when it is revolved around the x-axis.
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3. Let \mathcal{R} be the region between the curve $y = 2 - x^2$ and the line $y = 1$. When you revolve this region around the x-axis, you get a ring shape. Use the washer method to find the volume of this ring.
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4. What is the volume of the solid obtained by revolving the region beneath $y = e^{-x}$ from $x = 0$ to ∞ around the x-axis?
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