

7.3.2

Finding volume of cross-sectional solids

Rule Sheet #40 $\int_a^b A(x) dx$

7.3.2 Volumes with Cross-Sections

1. Base: Region bound by $y = x$ $y = 0$ $[0,3]$

Cross-sections: squares with one side on the base

2. Base: Circle, $r=2$

Cross-section: squares with one side on the base

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3. Base: $y = \sin x, y = 0, [0, \pi]$

Cross-sections: Squares with one side on the base perpendicular to the x-axis

3b. Cross-sections: squares perpendicular to the x-axis.

4. Base: Circle, $r=4$

Cross-sections: Isosceles right triangles with one leg on the base

5. Base: $y = x^2, y = 2$

Cross-sections: Squares perpendicular to the x-axis

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5b. Cross-sections: squares perpendicular to the y-axis

6. Base: $y = e^x, x = 1$

Cross-sections: Squares with one side on the base perpendicular to the y-axis