Worksheet: Volumes by discs or washers.

Do these calculations with a group, if possible.

A. Sketch the region bounded by the given curves:

$$y = 2x^3, \quad x = 1, \quad y = 0.$$

Now sketch a typical slice and find the volume when the region is rotated around the y-axis.

B. Sketch the ellipse $x^2 + 9y^2 = 9$. Rotate it around the x-axis, sketch a typical slice, and find the volume of the resulting rugby-ball-like ellipsoid.

C. Sketch the region bounded by the given curves:

$$y = \ln x, \quad x = 2, \quad y = 0.$$

Now sketch a typical slice and find the volume when the region is rotated around the y-axis.

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