

# Challenge 1

Name:

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**P 1.** Let  $R$  be the region bounded by the graphs of the equations

$$\frac{x\sqrt{3}}{2} + \frac{y}{2} = \left(\frac{x}{2} - \frac{y\sqrt{3}}{2}\right)^2 - 2 \text{ and } \frac{x\sqrt{3}}{2} + \frac{y}{2} = 0.$$

Find the volume of the solid of revolution obtained by revolving the region  $R$  about the line

$$\frac{x\sqrt{3}}{2} + \frac{y}{2} = -5.$$