

Solid of Revolution (Cylindrical Shell) Study Group Activity

(Groups of 3 or 4 people)

Purpose of activity: Gain a deeper understanding of the topic by solving a problem on your own and then teaching it to your peers.

Due Date: Wednesday November 29th

Individual Portion: Everybody in the group should choose ONE of the problems below. Solve your problem on your own before you meet with your group.

For each problem, set up an integral using a Cylindrical Shell to find the volume of the solid of revolution.

1. The region bounded by $y = 2x^2$ and $y = x^2$ between $x = 1$ and $x = 2$ around the line $x = 0$
2. The region bounded by $y = 2x^2$ and $y = x^2$ between $x = 1$ and $x = 2$ around the line $x = 3$
3. The region bounded by $y = 2x^2$ and $y = x^2$ between $x = 1$ and $x = 2$ around the line $x = 5$
4. The region bounded by $y = 2x^2$ and $y = x^2$ between $x = 1$ and $x = 2$ around the line $x = 2$

Group Portion: Take turns teaching your problem to the rest of the group. Use a whiteboard to clearly show each step to your groupmates. Record your teaching using a phone or camera.

Assessment: Upload your video to Blackboard.