

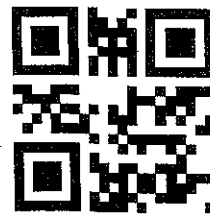
1.

Find the volume of a solid whose base is bounded by  $x^2 + y^2 = 16$  with cross sections perpendicular to the  $x$ -axis that are equilateral triangles.



2.

Find the volume of the solid with base bounded by the graphs of  $y = -x^2 + 2$  and  $y = -x$  with cross sections perpendicular to the  $x$ -axis that are rectangles of height 3.



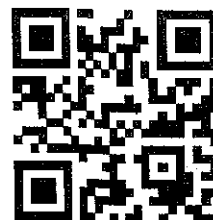
3.

The base of a solid is bounded by  $y = x^2$  and  $y = 4$ . Find the volume of the solid if cross sections perpendicular to the  $x$ -axis are squares.



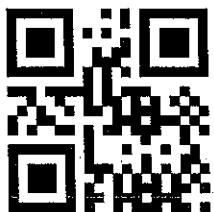
4.

The base of a solid is bounded by  $y = x^2$  and  $y = 4$ . Find the volume of the solid if cross sections perpendicular to the  $y$ -axis are semi-circles.



5.

The base of a solid is bounded by  $x = y^2$  and  $x = 16$ . Find the volume if cross sections perpendicular to the  $x$ -axis are isosceles right triangles with one congruent side in the  $xy$ -plane.



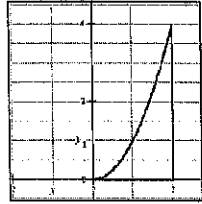
6.

The base of a solid is the region enclosed by the ellipse  $9x^2 + y^2 = 9$ . Find the volume of the solid if cross sections perpendicular to the  $y$ -axis are squares.



Use the method of cylindrical shells to find the volume of the solid generated by rotating around the  $y$ -axis.

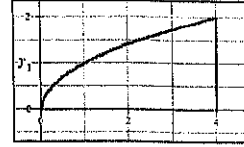
$$1. \quad y = x^2, \\ y = 0, x = 2$$



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Use the method of cylindrical shells to find the volume of the solid generated by rotating around the  $y$ -axis.

$$2. \quad x = y^2, \\ y = 0, x = 4$$



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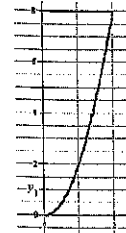
Use the method of cylindrical shells to find the volume of the solid generated by rotating around the  $y$ -axis.

$$3. \quad y = 25 - x^2, \\ y = 0$$

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Use the method of cylindrical shells to find the volume of the solid generated by rotating around the  $y$ -axis.

$$4. \quad y = 2x^2, \\ y = 8$$



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Use the method of cylindrical shells to find the volume of the solid generated by rotating around the  $y$ -axis.

$$5. \quad y = 4x^2 - x^3, \\ y = 0$$

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### Volume of Revolutions Task Card Answers

- 1)  $8\pi$
- 2)  $128\pi/5$
- 3)  $625\pi/2$
- 4)  $16\pi$
- 5)  $512\pi/5$

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