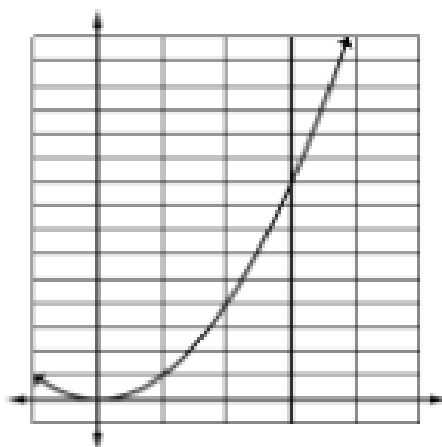


Calculus
Volume of a Solid by Cross Sections A

1. Consider the space bounded by $y = x^2$, the line $x = 3$, and the x -axis. Suppose a three dimensional solid is made by making cross sections **perpendicular to the x -axis**.



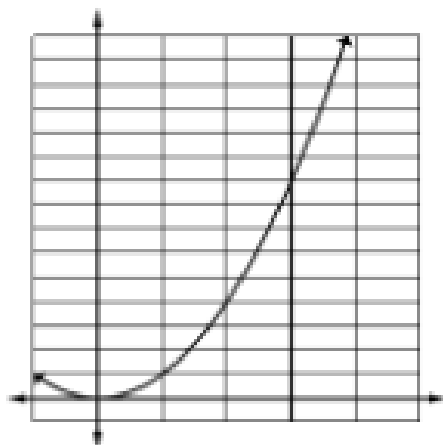
- A. What will the volume of the shape be if the cross sections are squares?

- B. What will the volume of the shape be if the cross sections are semi-circles?

- C. What will the volume of the shape be if the cross sections are equilateral triangles?

Calculus
Volume of a Solid by Cross Sections B

1. Consider the space bounded by $y = x^2$, the line $x = 3$, and the x -axis. Suppose a three dimensional solid is made by making cross sections **perpendicular to the y -axis**.



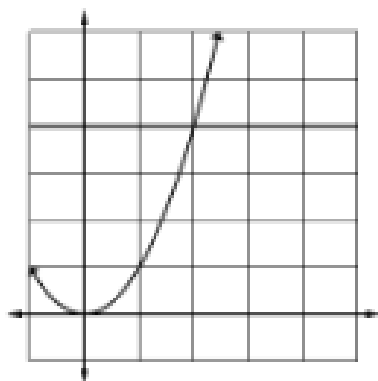
- A. What will the volume of the shape be if the cross sections are squares?

- B. What will the volume of the shape be if the cross sections are semi-circles?

- C. What will the volume of the shape be if the cross sections are isosceles right triangles (the leg of the right triangle stretches across the base of the shape)?

Calculus
Volume of a Solid by Cross Sections C

1. Consider the space bounded by $y = x^2$, the line $y = 4$, and the y -axis. Suppose a three dimensional solid is made by making cross sections **perpendicular to the x -axis**.



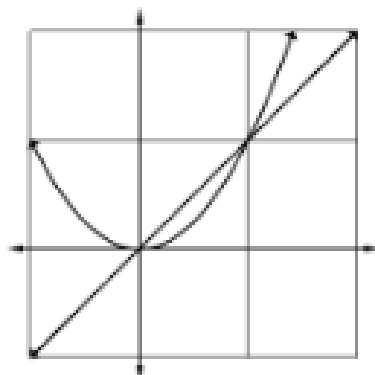
- A. What will the volume of the shape be if the cross sections are squares?

- B. What will the volume of the shape be if the cross sections are semi-circles?

- C. What will the volume of the shape be if the cross sections are equilateral triangles?

Calculus
Volume of a Solid by Cross Sections D

1. Consider the space bounded by $y = x^2$ and $y = x$ in the first quadrant. Suppose a three dimensional solid is made by making cross sections **perpendicular to the x-axis.**



- A. What will the volume of the shape be if the cross sections are squares?

- B. What will the volume of the shape be if the cross sections are semi-circles?

- C. What will the volume of the shape be if the cross sections are equilateral triangles?