Volume - Worksheet

1. Find the volume, where the base is the region bounded by $y = x$ and $y = \sqrt{x}$, and whose cross-sections perpendicular to the y-axis are squares.

2. Find the volume, where the base is the region bounded by $y = x$ and $y = \sqrt{x}$, and whose cross-sections perpendicular to the y-axis are semi-circles.

3. Find the volume of the solid whose base is the region bounded by $y = x$ and $y = \sqrt{x}$, and cross-sections perpendicular to the y-axis are equilateral triangles.

4. Write an integral expression for the volume of a pyramid with height 9 and square base with side 4.

5. Write an integral expression for the volume of a sphere with radius 5.

6. Find the volume of the solid whose base is the region bounded by $y = e^{-x}$, $y = 0.5$ and $x = 0$, and cross-sections perpendicular to the y-axis are circles.

7. Find the volume of the solid whose base is the region bounded by $y = e^{-x}$, $y = 0.5$ and $x = 0$, and cross-sections perpendicular to the y-axis are squares.

8. Write an integral expression for the volume of a hemisphere with radius a.

9. Find the volume of the solid whose base is the region bounded by $y = e^{-x}$, $y = 0.5$ and $x = 0$, and cross-sections perpendicular to the y-axis are equilateral triangles.

10. Write an integral expression for the volume of a pyramid with height 10 and circular base with radius a.
