Handout 3: Pump Up The Volume
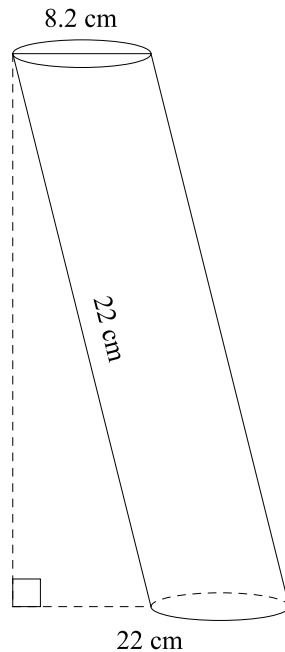## Answers

8.2 cm

22 cm

22 cm

Figure 1

1. Find the volume of the solid in Figure 1.

   $V \approx 903 \text{ cm}^3$.

2. Find the volume of a rectangular prism with dimensions of $100 \text{ m} \times 200 \text{ m} \times 125 \text{ m}$.

   $V = 2,500,000 \text{ m}^3$.

3. Find the volume of a pentagonal pyramid with a slant height of 36 ft and an apothem of 10 ft.

   $V \approx 4188 \text{ ft}^3$.

4. Find the volume of an oblique cone with a diameter of 17 m and a height of 24.7 m.

   $V \approx 1870 \text{ m}^3$.

5. Find the volume of a sphere with a circumference of 31.4 ft.

   $V \approx 523.6 \text{ ft}^3$.

6. Find the volume of a rectangular prism with dimensions of $5 \text{ in} \times 6 \text{ in} \times 9 \text{ in}$ connected to a pyramid with a rectangular base of $5 \text{ in} \times 6 \text{ in}$ and a height of 12 in.

   $V = 390 \text{ in}^3$.

7. A hemisphere with a diameter of 4.2 yd sits atop a cylinder with the same diameter and a height of 5.8 yd. A cone of the same dimensions as the cylinder has been hollowed out from the inside. What is the volume of the solid?

$V \approx 73 \text{ yd}^3$.

8. A cylindrical test tube has a diameter of 1.6 centimeters and a length of 15 centimeters. If one cubic centimeter equals one milliliter, then how many milliliters can one test tube hold?

30.1 mL.

9. Your bathtub is in the shape of a rectangular prism. Its dimensions are 151 centimeters, 81 centimeters, and 46 centimeters. If 1 liter is 1000 cubic centimeters, how many liters of water can your bathtub hold?

562.6 L.

10. A cylindrical fountain has a diameter of 10 feet and a height of 1 foot. What is the maximum volume of water that the fountain can contain?

The fountain can hold 78.5 ft^3 of water.