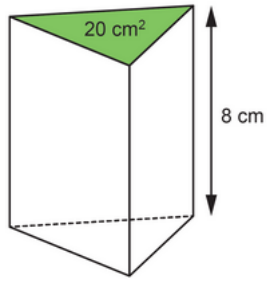
Shape and Space

Lesson 7 Assessment

Determining the Volume of Cylinders

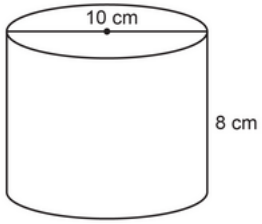
Determining the Volume of Prisms and Cylinders

Understands that the volume of a right prism is the area of its base times height



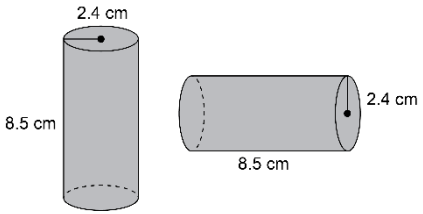
The volume of the right triangular prism is
20 cm × 8 cm = 160 cm^3.

Determines the volume of a right cylinder



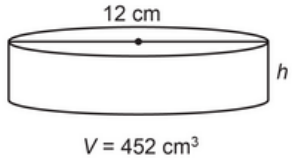
area of base:
$\pi \times r^2 \approx 3.14 \times 5^2$
$= 78.5$
The area of the base is about 78.5 cm^2.
Volume:
$A \times h \approx 78.5 \times 8$
$= 628$
The volume is about 628 cm^3.

Understands that orientation of a right prism or right cylinder does not affect its volume



The cylinders have the same volume because they have the same radius and height.

Determines a missing dimension of a right prism or right cylinder



What is the approximate height of the cylinder?
Volume:
$V = \pi r^2 h$
$452 \approx 3.14 \times 6^2 \times h$
$452 = 113.04 \times h$
$h = 452 \div 113.04$
$h \approx 4$
The height is about 4 cm.

Observations/Documentation