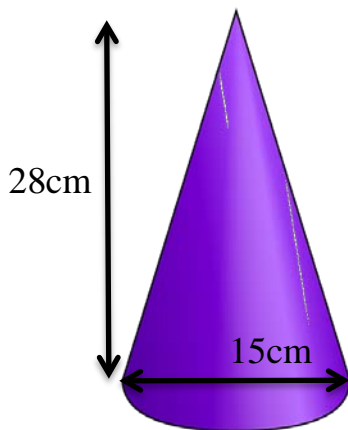


National 5 Mathematics:
Volumes of solids and similar shapes

Please attempt the following questions in preparation for the online session on 15th March 2018.

Q1

What is the volume of the cone shown in the diagram below?



Q2

This globe of the earth is spherical with a diameter of 32.5 cm. Calculate the volume of the globe.



Q3

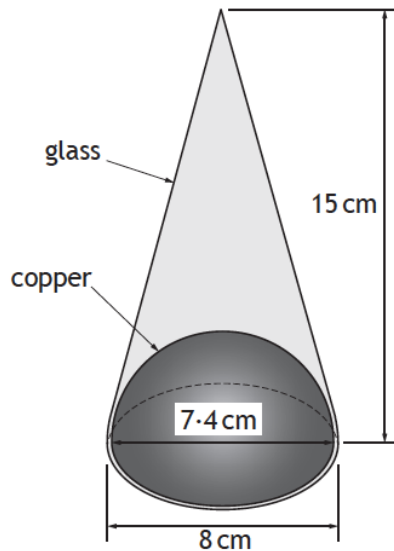
300ml of wax is poured into a cylindrical container. If the finished candle is 12cm tall, what is the radius of the candle?



National 5 Mathematics:
Volumes of solids and similar shapes

Q4

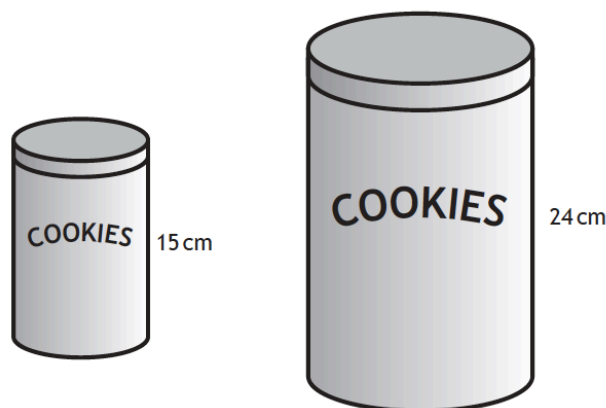
An ornament is in the shape of a cone with diameter 8cm and height 15cm. The bottom contains a copper hemisphere with diameter 7.4cm. The ornament is made of glass, as shown below.



Calculate the volume of the glass part of the ornament.
Give your answer correct to 2 significant figures.

Q5

A supermarket sells cylindrical cookie jars which are mathematically similar. The smaller jar has a volume of 750cm^3 .



Calculate the volume of the larger jar.

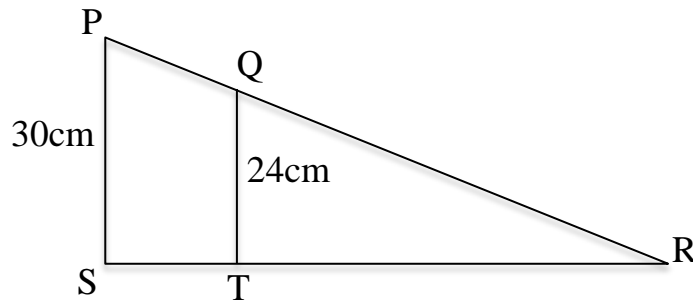
National 5 Mathematics:
Volumes of solids and similar shapes

Q6

Triangles PRS and QRT are mathematically similar.

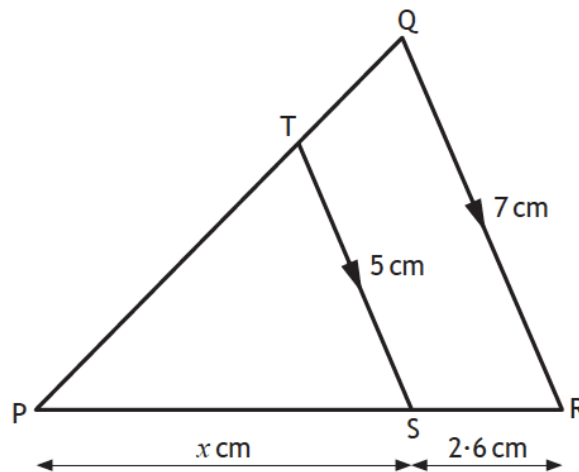
The area of triangle QRT is 400cm^2 .

Calculate the area of PQTS.



Q7

In the diagram TS and QR are parallel and PS is x cm long.



Calculate the value of x .