

Q1. (2017)

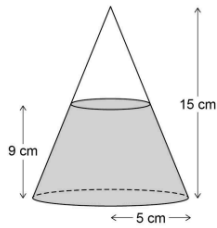
28 Volume of cone = $\frac{1}{3}\pi r^2 h$ where r is the radius and h is the perpendicular height.

A cone has a

horizontal base of radius 5 cm

height of 15 cm

The cone contains water to a depth of 9 cm



Work out the volume of the water, in cm^3

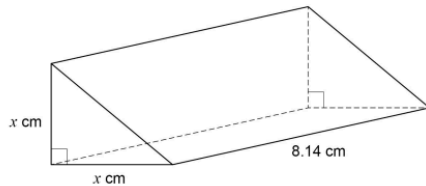
Give your answer in terms of π .

[4 marks]

Answer _____ cm^3

Q2. (2019)

13 The triangular cross section of a prism is an isosceles right-angled triangle.



The volume of the prism is 102 cm^3

Use approximations to estimate the value of x .

You **must** show your working.

[3 marks]

Q3. (2020)

27 A and B are similar solid cylinders.

base area of A : base area of B = 9 : 25

Complete these ratios.

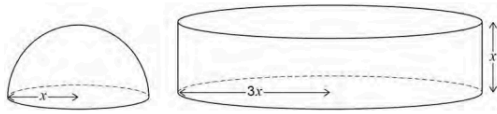
[2 marks]

curved surface area of A : curved surface area of B = _____ : _____

height of A : height of B = _____ : _____

Q4. (2023)

- 17 A solid hemisphere has radius x .
A solid cylinder has radius $3x$ and height x .



Surface area of a sphere = $4\pi r^2$
where r is the radius

Work out the ratio

total surface area of the hemisphere : total surface area of the cylinder

Give your answer in its simplest form.

You **must** show your working.

[3 marks]

Answer _____ : _____