

Higher Numeracy Sample 2 P2 Q12

12. A cylinder is made of bendable plastic.
Part of a child's toy is made by bending the cylinder to form a ring.
The two circular ends of the cylinder are joined to form the ring.

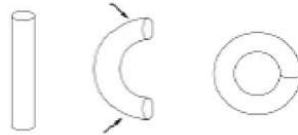


Diagram not drawn to scale

The inner radius of the ring is 9 cm.
The outer radius of the ring is 10 cm.

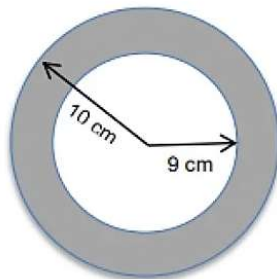


Diagram not drawn to scale

Calculate an approximate value for the volume of the ring.
State and justify what assumptions you have made in your calculations and the impact they have had on your results.

[7]

Higher Numeracy Sample 2 P2 Q14

14. A solid concrete base for a garden statue is to be made in the shape of a *frustum* of a pyramid. The *frustum* is formed by removing a small pyramid from a large pyramid, as shown in the diagram.

Calculate the volume of concrete required to make the base for the garden statue.
Give your answer in **litres**.

[6]

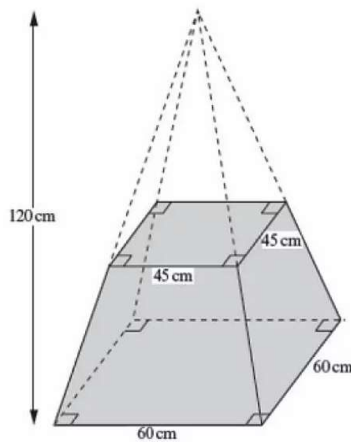


Diagram not drawn to scale