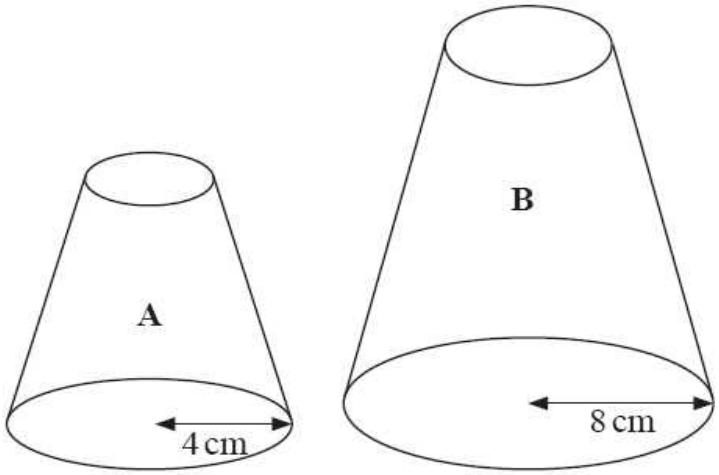
24.



Diagrams **NOT** accurately drawn

Two solid shapes, **A** and **B**, are mathematically similar.
The base of shape **A** is a circle with radius 4 cm.
The base of shape **B** is a circle with radius 8 cm.

The surface area of shape **A** is 80 cm^2.

(a) Work out the surface area of shape **B**.

..... cm^2
(2)

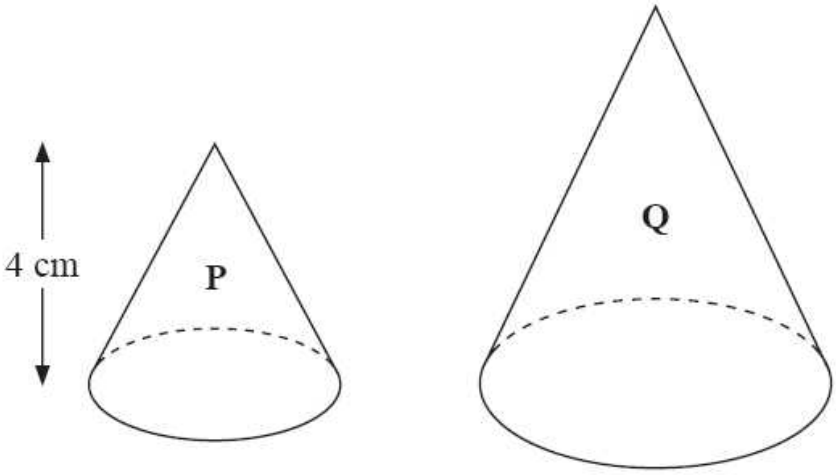
The volume of shape **B** is 600 cm^3.

(b) Work out the volume of shape **A**.

..... cm^3
(2)

20.

Diagrams **NOT** accurately drawn



Two cones, **P** and **Q**, are mathematically similar.
The total surface area of cone **P** is 24 cm^2.
The total surface area of cone **Q** is 96 cm^2.
The height of cone **P** is 4 cm.

(a) Work out the height of cone **Q**.

..... cm

(3)

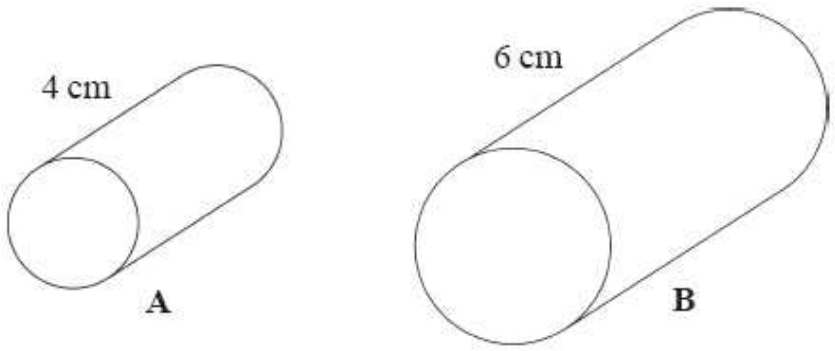
The volume of cone **P** is 12 cm^3.

(b) Work out the volume of cone **Q**.

..... cm^3

(2)

16.



Diagrams **NOT** accurately drawn

Cylinder **A** and cylinder **B** are mathematically similar.
The length of cylinder **A** is 4 cm and the length of cylinder **B** is 6 cm.
The volume of cylinder **A** is 80 cm^3.

Calculate the volume of cylinder **B**.

21. The volumes of two mathematically similar solids are in the ratio 27 : 125

The surface area of the smaller solid is 36 cm^2.

Work out the surface area of the larger solid.

12

Two mathematically similar frustums have heights of 20 cm and 30 cm.

The surface area of the smaller frustum is 450 cm^2.

(c) Calculate the surface area of the larger frustum.

23.

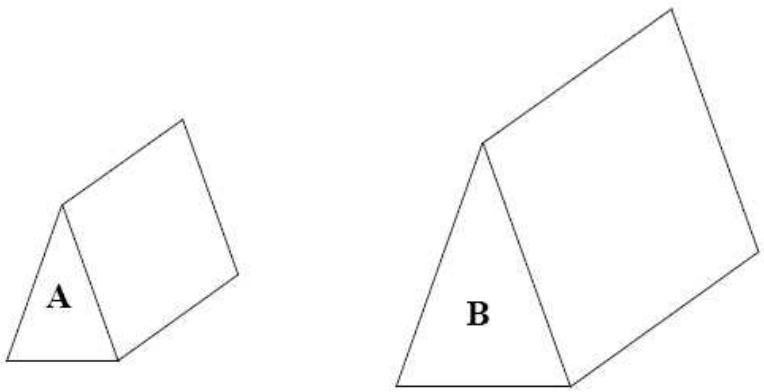


Diagram **NOT** accurately drawn

Two prisms, **A** and **B**, are mathematically similar.
The volume of prism **A** is 12 000 cm^3.
The volume of prism **B** is 49 152 cm^3.
The total surface area of prism **B** is 9728 cm^2.

Calculate the total surface area of prism **A**.