Name:

Exam Style Questions

Volume of a Frustum

Corbettmαths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings
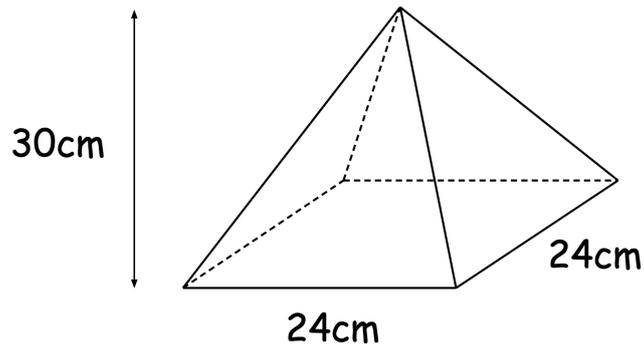
Video Tutorial

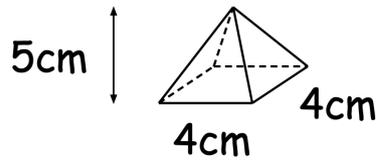www.corbettmaths.com/contents

Video 360a

Answers and Video Solutions

1. Shown is a square based pyramid, A.
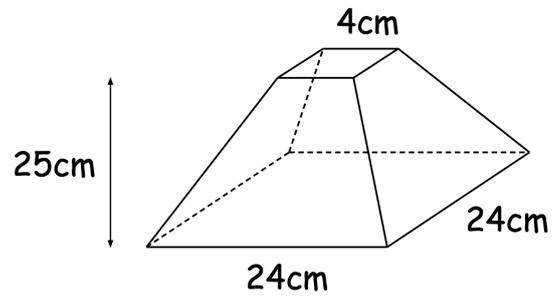

30cm

24cm

24cm

(a) Find the volume of A

..........................cm³
(2)

Shown is a smaller square based pyramid, B.

5cm

4cm

4cm

(b) Find the volume of B

..........................cm³
(2)
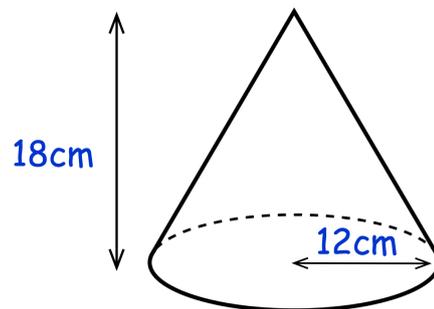
A frustum is created by removing the pyramid B from the top of pyramid A.
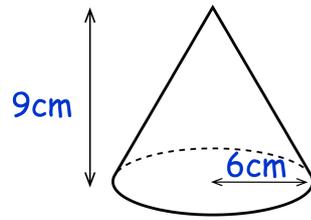

(c) Find the volume of the frustum.

..........................cm³

(1)

2. Shown below is cone A.

(a) Find the volume of A

.........................cm³

(2)

Shown is a smaller cone, B.

(b) Find the volume of B

........................cm³

(2)

A frustum is created by removing the cone B from the top of cone A.
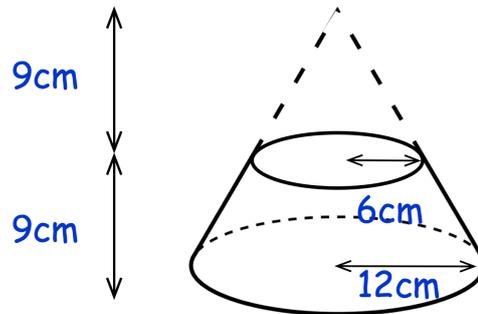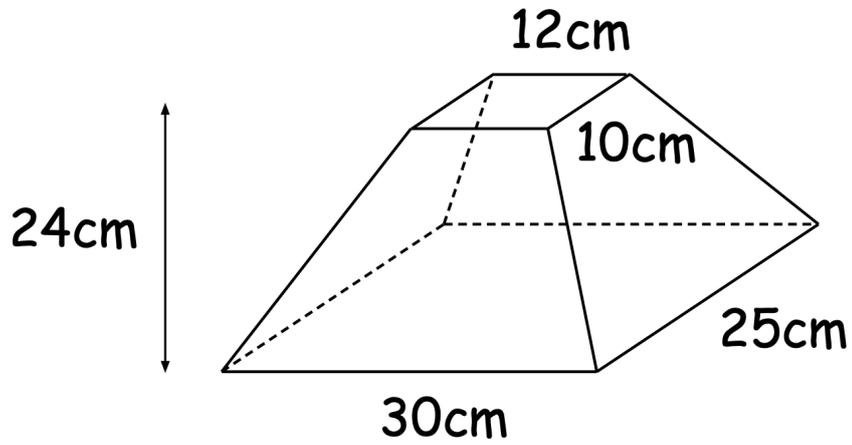

(c) Find the volume of the frustum.

........................cm³

(1)

3. A frustum is made by removing a small pyramid from a larger pyramid.

10cm

5cm

8cm

8cm
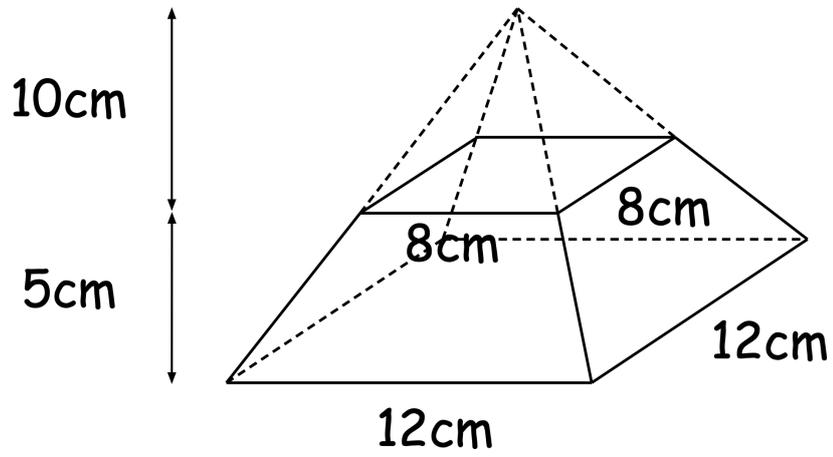
12cm

12cm

Find the volume of the frustum.

.........................cm³

(4)
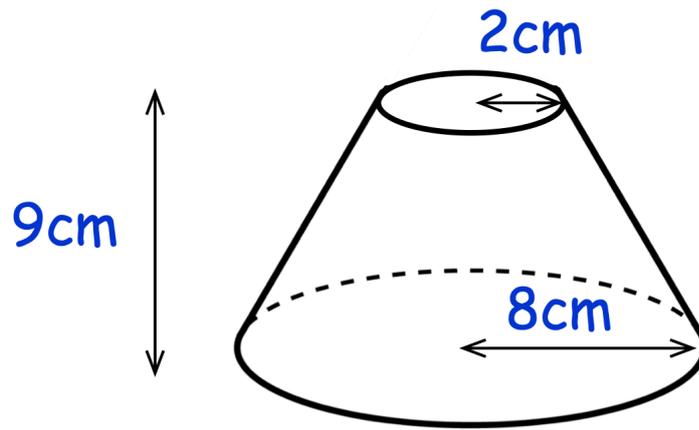
4. Shown is a frustum of a pyramid that had a perpendicular height of 40cm.
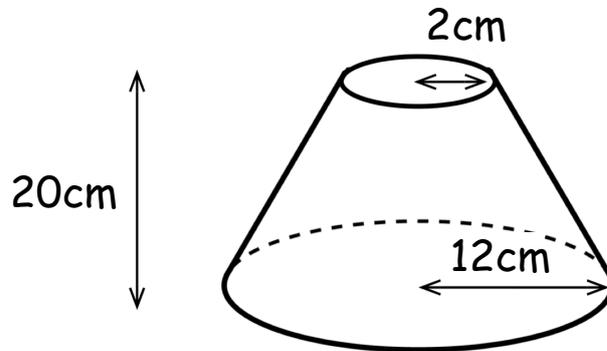

Find the volume of the frustum.

..........................cm³

(4)

5. Shown is a frustum of a cone that had a perpendicular height of 12cm.

2cm

9cm

8cm

Find the volume of the frustum.

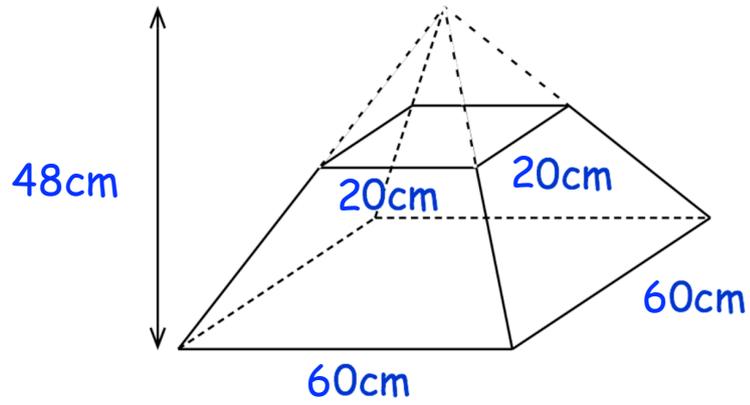.........................cm³

(4)

6. Shown below is a frustum of a cone.

Work out the volume of the frustum.

........................cm³

(4)

7. Shown below is a frustum of a square based pyramid.

Work out the volume of the frustum.

..........................cm³

(4)

8.   Shown below is a frustum of a pyramid.
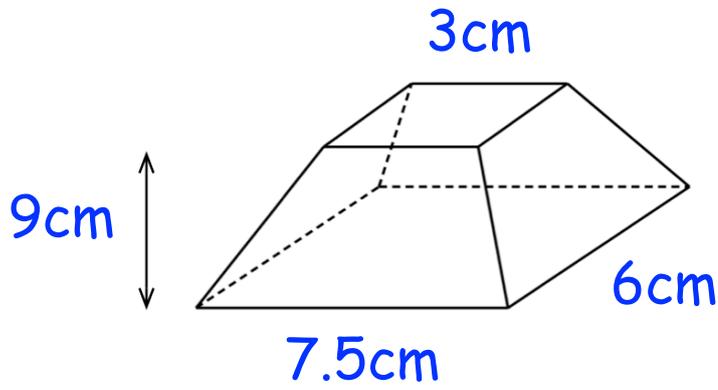
Work out the volume of the frustum.

..........................cm³

(4)

9. Shown is a frustum of a cone.

8mm

6mm

1.1cm
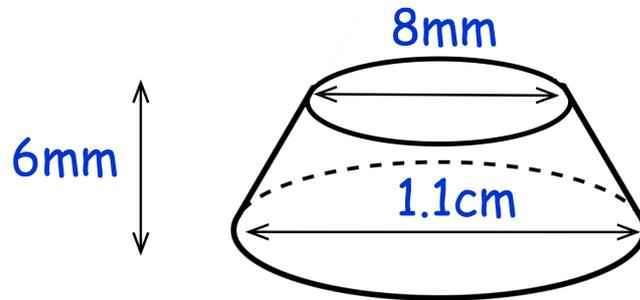
Find the volume of the frustum.
Include suitable units.

....
(5)

10. Shown is a frustum of a cone.
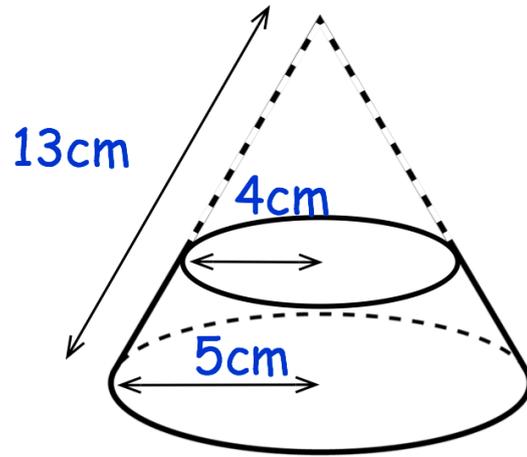
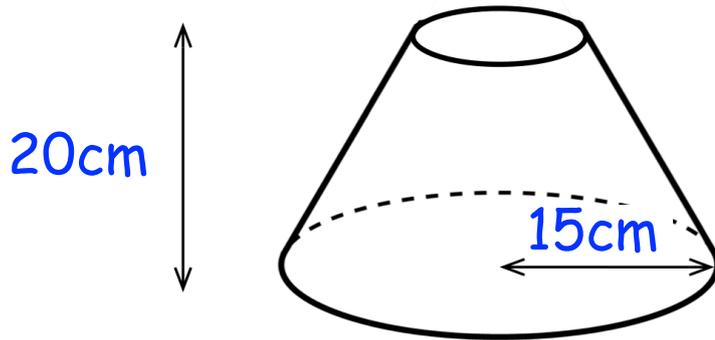Find the volume of the frustum.

..........................cm³

(5)

11. Lily is making a solid metal sculpture.

Lily has a solid metal cone with base radius of 15cm and perpendicular height 24cm.

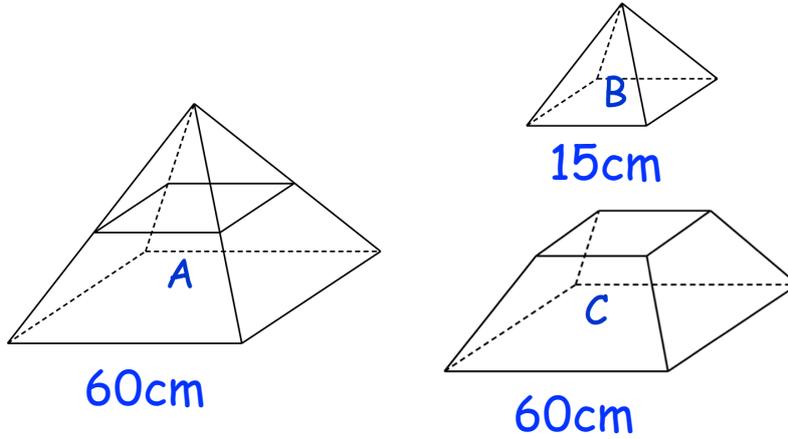She removes a smaller cone from the top of the cone to leave a frustum.

The density of the metal is 5.8g/cm³

Find the mass of the sculpture.
Give your answer in kilograms.

.........................kg
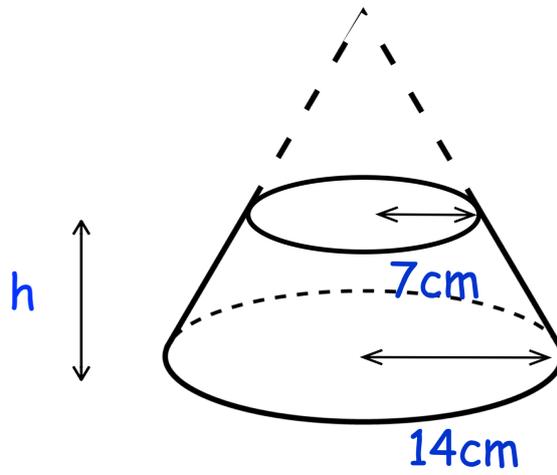
(5)

12. Squared based pyramid A is divided into pyramid B and frustum C.

Express the volume of Frustum C as a fraction of the volume of pyramid A.

Give your answer in its simplest form.

....

(3)

13. A frustum is formed by removing a small cone from a larger cone.

The volume of the frustum is 9000cm³

Work out the height of the frustum, h.

........................cm

(4)

14. Anna made a solid conical ornament.
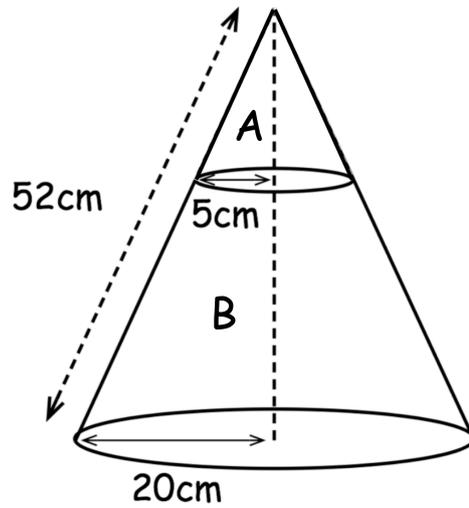
The top of the ornament, A, is made from aluminium and the bottom of the ornament, B, is made from zinc.

The density of the aluminium is 2.7g/cm³
The density of the zinc is 7.1g/cm³

Find the mass of the sculpture.
Include suitable units.

....

(7)