Volume and Surface Area of Pyramids

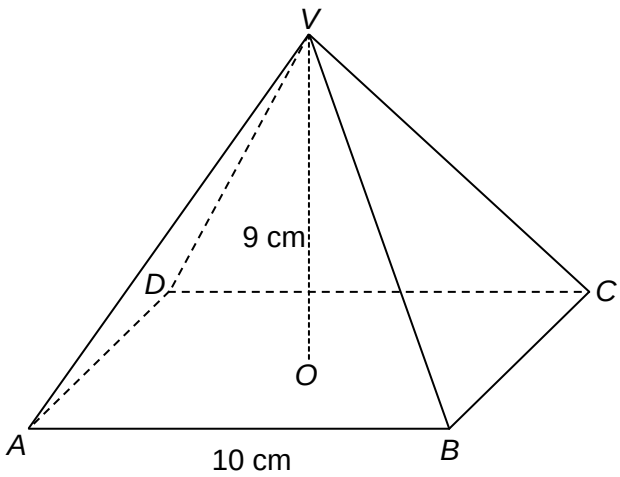
SCAN ME

REVISE THIS TOPIC

CHECK YOUR ANSWERS

SCAN ME

1 *VABCD* is a squared-based pyramid.
VO is the perpendicular height of the pyramid.



Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

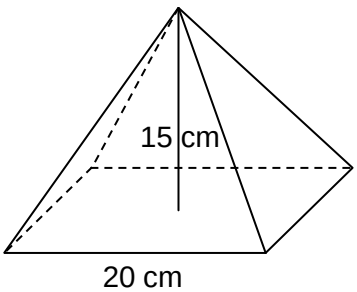
Work out the volume of the pyramid. **[2 marks]**

Answer _____ cm^3

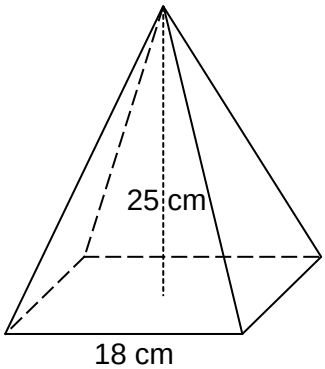
2

2 Here are two square based pyramids.

Pyramid A



Pyramid B



Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

The volume of **Pyramid A** is less than the volume of **Pyramid B**.

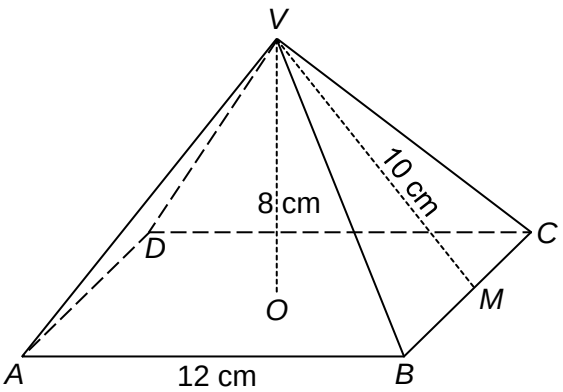
Work out how much less.

[4 marks]

Answer _____ cm^3

Solutions

3 *VABCD* is a squared-based pyramid.
VO is the perpendicular height of the pyramid.
M is the midpoint of *BC*.



Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

3 (a) Work out the volume of the pyramid. **[2 marks]**

Answer _____ cm^3

3 (b) Work out the surface area of the pyramid. **[4 marks]**

Answer _____ cm^2

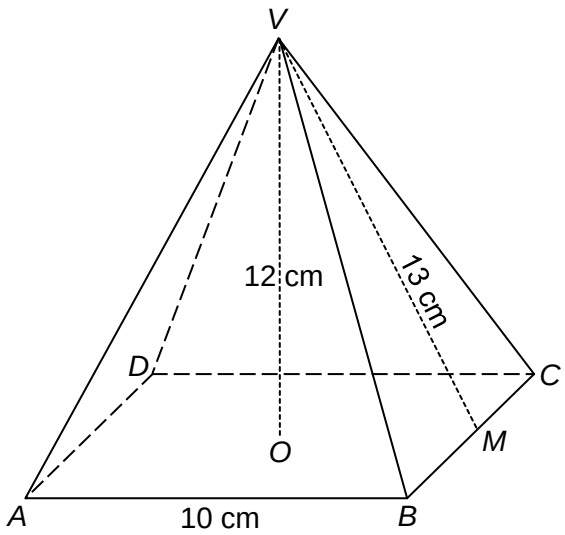
10

Turn over ►

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

Solutions

4 *VABCD* is a squared-based pyramid.
VO is the perpendicular height of the pyramid.
M is the midpoint of *BC*.



4 (a) Work out the volume of the pyramid. **[2 marks]**

Answer _____ cm^3

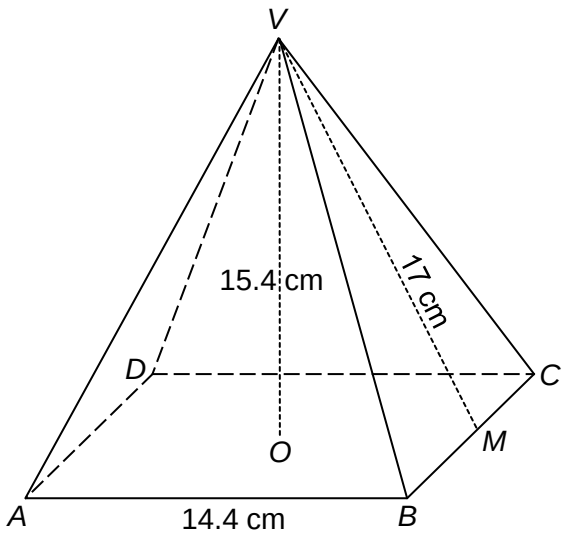
4 (b) Work out the surface area of the pyramid. **[4 marks]**

Answer _____ cm^2

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

Solutions

5 *VABCD* is a squared-based pyramid.
VO is the perpendicular height of the pyramid.
M is the midpoint of *BC*.



5 (a) Work out the volume of the pyramid.
Give your answer to the nearest integer. **[2 marks]**

Answer _____ cm^3

5 (b) Work out the surface area of the pyramid.
Give your answer to the nearest integer. **[4 marks]**

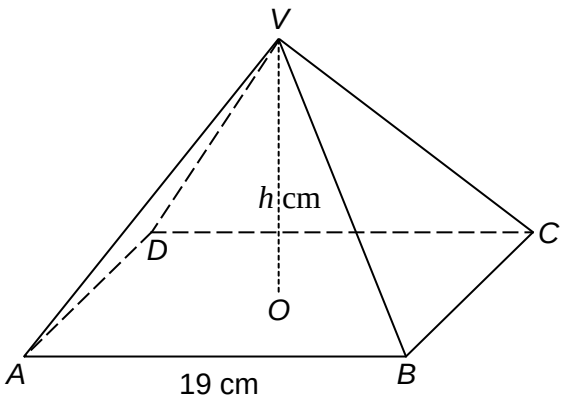
Answer _____ cm^2

12

Turn over ►

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

6 *VABCD* is a squared-based pyramid.



The volume of the pyramid is 1500 cm^3

Work out the value of h, the perpendicular height of the pyramid.
Give your answer to 1 decimal place.

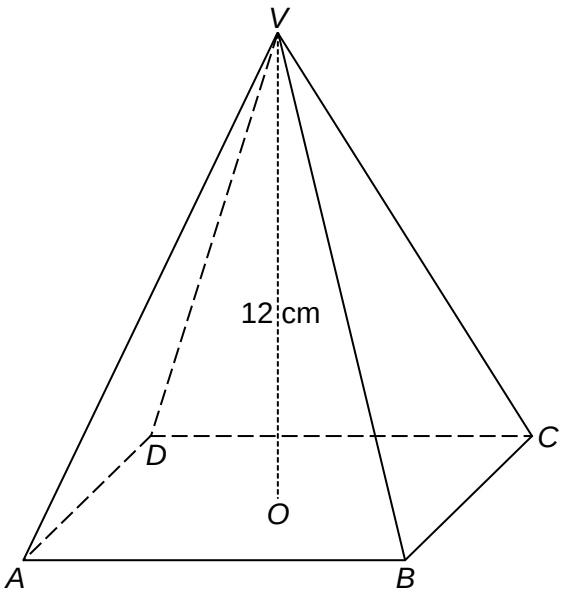
[3 marks]

h = _____ cm

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

Solutions

7 *VABCD* is a squared-based pyramid.
VO is the perpendicular height of the pyramid.



The volume of the pyramid is 300 cm^3

Work out the length of side *AB*.
Give your answer to 1 decimal place. **[4 marks]**

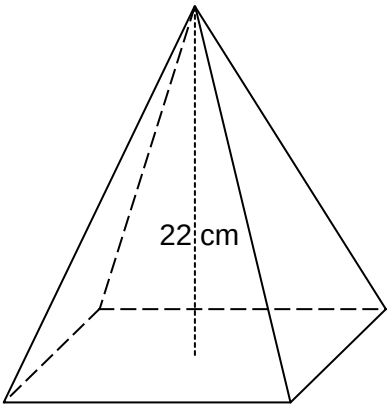
Answer _____ cm

7

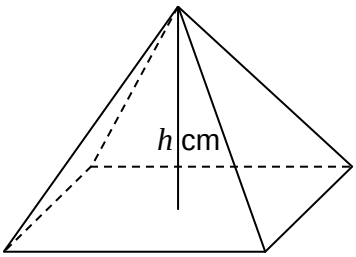
Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

8 Here are two square based pyramids.

Pyramid A



Pyramid B



Volume of **Pyramid A** = 2 × Volume of **Pyramid B**

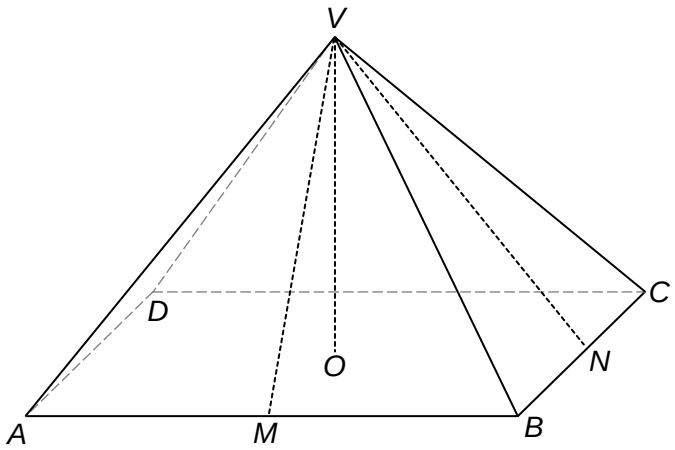
Work out the value of h, the perpendicular height of **Pyramid B**.
Give your answer to 1 decimal place. **[5 marks]**

h = _____ cm

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

Solutions

9 Here *VABCD* is a pyramid with rectangular base *ABCD*.
VO is the perpendicular height of the pyramid.
M is the midpoint of *AB*.
N is the midpoint of *BC*.



VA = *VB* = *VC* = *VD*

AB = 36 cm
BC = 14 cm
VO = 24 cm
VM = 25 cm
VN = 30 cm

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

9 (a) Work out the volume of the pyramid. **[2 marks]**

Answer _____ cm^3

2

Volume of pyramid = $\frac{1}{3}$ × area of base × perpendicular height

9 (b) Work out the surface area of the pyramid. **[4 marks]**

Answer _____ cm^2

4

Solutions