Name:

Level 2 Further Maths

3D Pythagoras
3D Trigonometry

Corbettmaths

Ensure you have: Pencil or pen

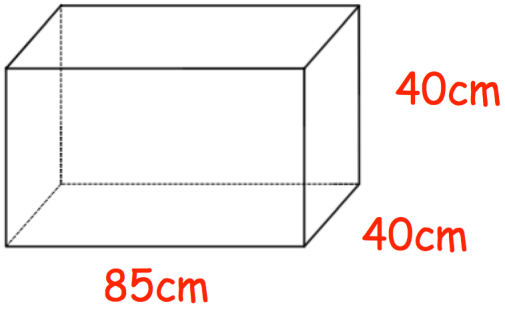
Guidance

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

Revision for this topic

www.corbettmaths.com/more/further-maths/

1.

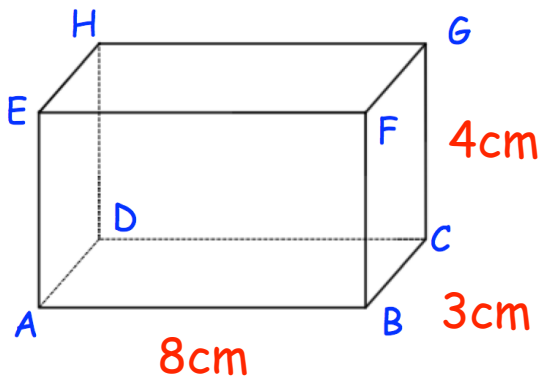


Can a one metre rod fit inside of the box?
Explain your answer.

(4)

2. ABCDEFGH is a cuboid

AB = 8cm
BC = 3cm
CG = 4cm



(a) Work out the length of BH

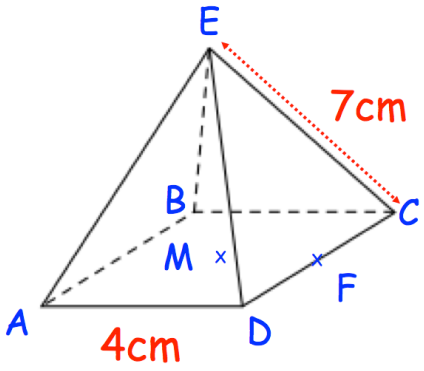
……..cm
(3)

(b) Work out the size of the angle between BH and the plane ABCD

……..°
(3)

3. Shown below is the square based pyramid ABCDE.

F is the midpoint of CD.
M is the point on the base directly below the vertex E.



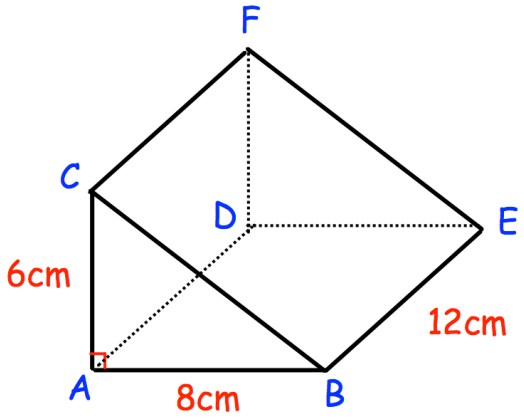
(a) Work out the length of EM

……..cm
(4)

(b) Work out the angle between the line EF and plane ABCD

……..°
(3)

4. Shown below is a triangular prism.
Triangle ABC is a right angle triangle.



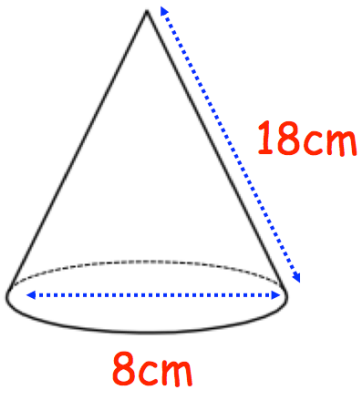
(a) Work out the length of BF

……..cm
(4)

(b) Work out the angle between the plane BEFC and plane ABED

……..°
(2)

5.

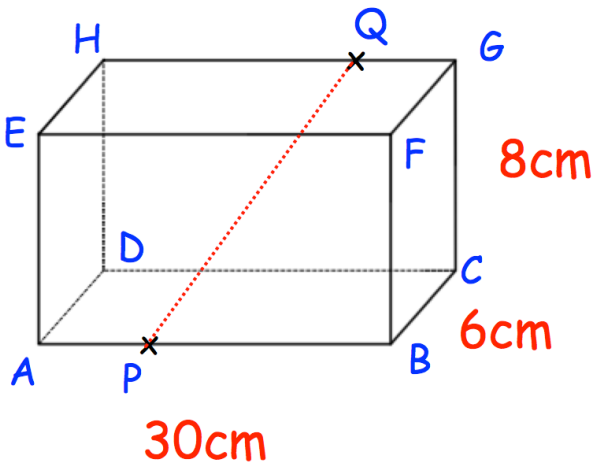


Calculate the volume of this cone.

……..cm³

(4)

6.



ABCDEFGH is a cuboid.

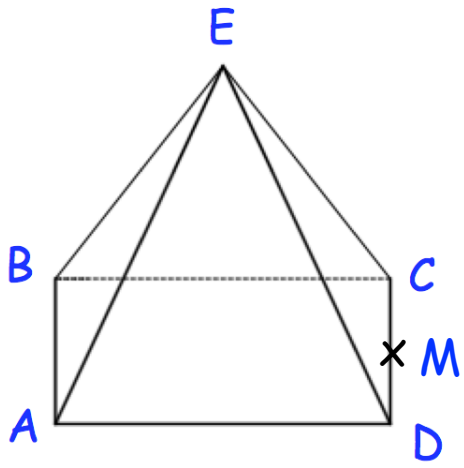
P is a point on AB such that AP:PB is 1:2
Q is a point on GH such that GQ:QH is 2:3

Calculate the angle between the line PQ and the plane ABCD.

.....°

(5)

7. Shown below is a rectangular-based pyramid.
The apex E is directly over the base of the pyramid.



AD = 8cm CD = 6cm CE = 11cm

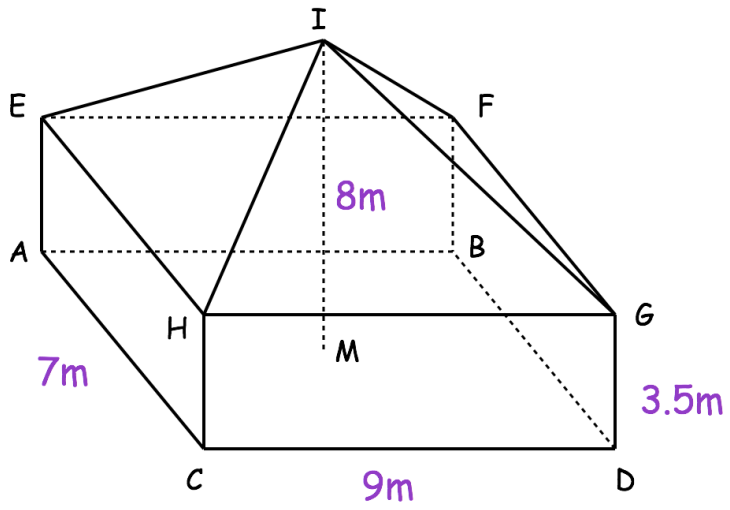
M is the midpoint of the line CD.

Work out the size of angle AME

……°

(6)

8. The diagram shows a cuboid and a pyramid.
The apex of the pyramid, I, is directly above the centre, M, of ABDC.



(a) Calculate the angle between the line DI and the plane ABDC

.....°

(4)

(b) Calculate the angle between planes EHI and ACHE

.....°

(4)