Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

3D Pythagoras

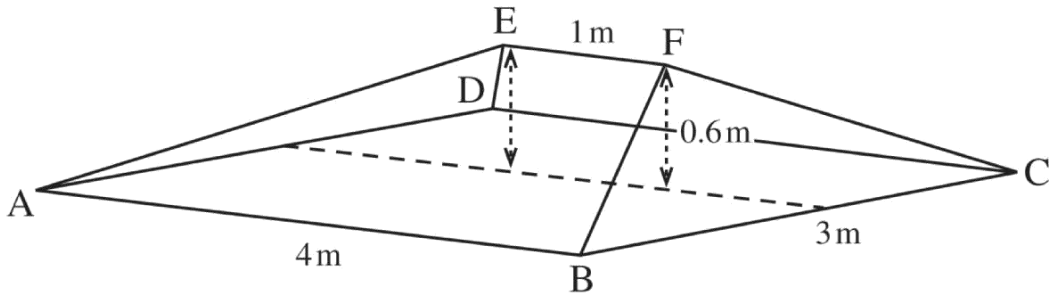
Calculator Allowed

INSTRUCTIONS TO CANDIDATES

- Write your name in the space provided.
- Write your answers in the spaces provided in this question paper.
- Answer ALL questions.
- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.
- You should have a ruler, compass and protractor where required.

Total Marks :

1) Cheryl bought a gazebo for her garden.

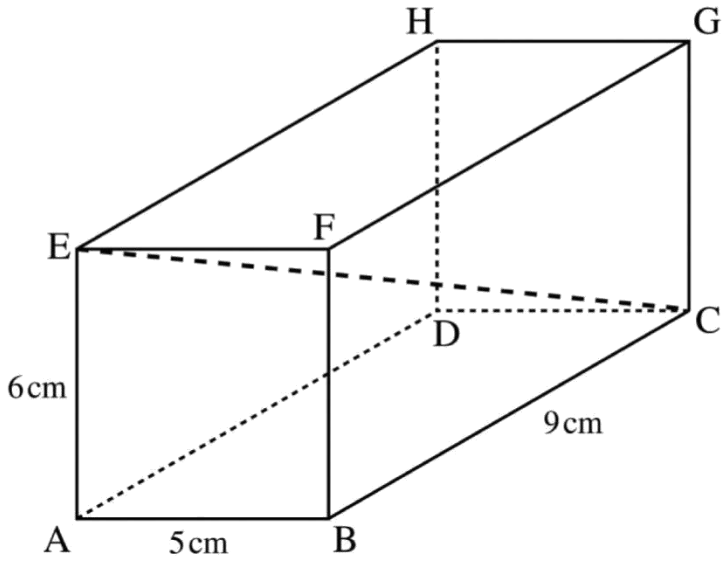


The diagram shows the metal frame for the roof.
ABCD is horizontal and is a rectangle with AB = 4 m and BC = 3 m.
EF = 1 m and is centrally placed, 0.6 m above the plane of ABCD.
Calculate

(a) the length of FB,

Answer _____ m [3]

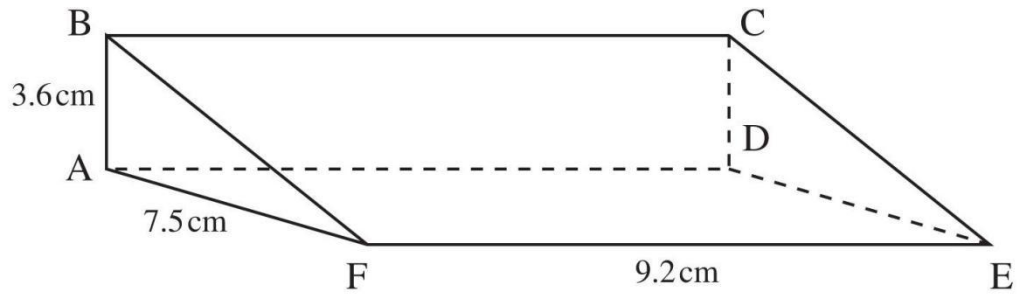
(b) ABCDEFGH is a cuboid with AB = 5 cm, AE = 6 cm and BC = 9 cm.



Find the **exact** length of the line EC.

Answer _____ cm [2]

2)

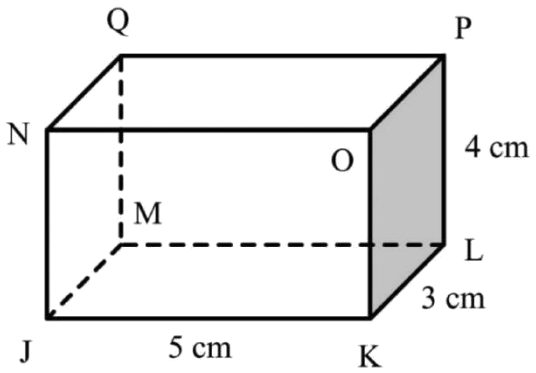


ABCDEF is a triangular wedge.
ADEF is a rectangular face on a horizontal floor.
ABCD is a vertical rectangular face.
AB = 3.6 cm, FE = 9.2 cm and AF = 7.5 cm.

Calculate the angle of inclination of BE to the horizontal.

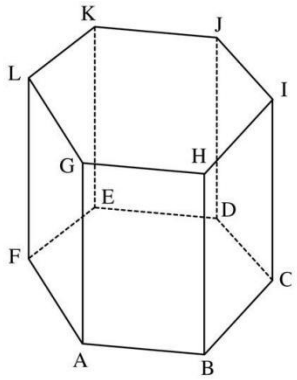
Answer _____° [3]

3) Calculate the length of the space diagonal JP in the cuboid shown.
Give your answer in the form $\sqrt{n}$.



Answer _____ cm [2]

4)



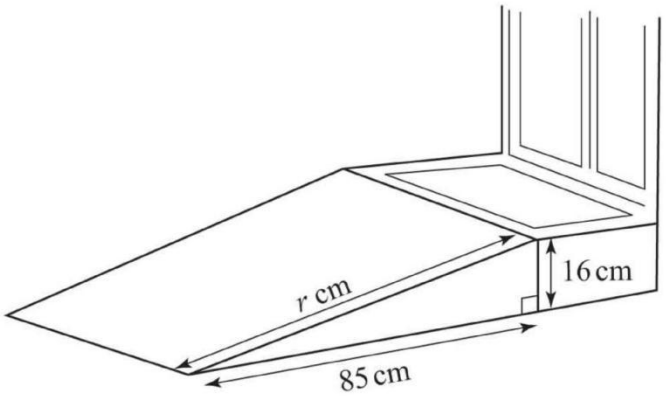
ABCDEF, GHIJKL, the base and top of the prism, are regular hexagons.
AB = 20 cm, AG = 30 cm.
Calculate the angle between AJ and the base ABCDEF.

Answer _____° [4]

5) A ramp is placed next to a step to allow wheelchair access.

The ramp is 16 cm high and reaches 85 cm from the step.

Calculate the sloping length, r cm, of the ramp to the edge of the step.



Answer _____ cm [3]