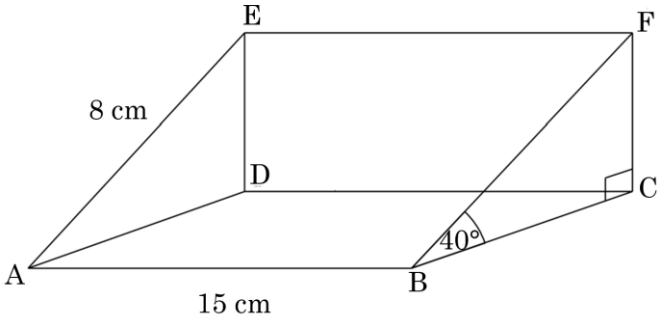
3d Trigonometry Exam Practice

Q1. Find the angle between AF and the plan ABCD.

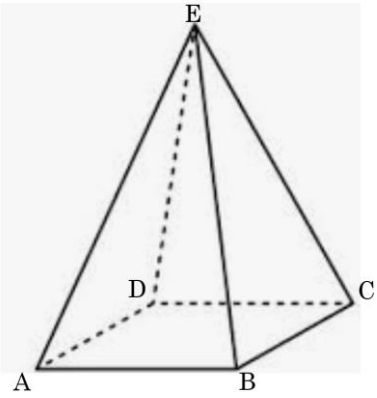


(4 marks)

Q2. A cube has side length 4 cm. Work out the longest direct distance between any two vertices, giving your answer in exact form.

(4 marks)

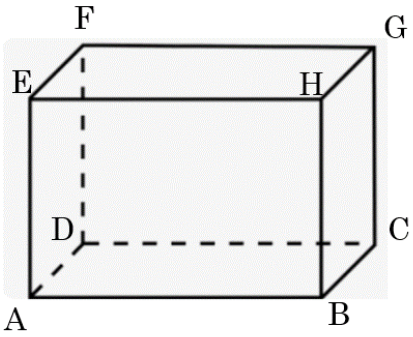
Q3. ABCDE is a square based pyramid. AB = 10 cm, & E is 25 cm vertically above the base ABCD.



Find the size of angle EAC to 1 decimal place.

(4 marks)

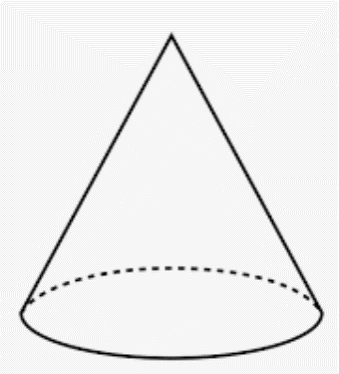
Q4. In the cuboid, AB = HB =18, BC=12 & M is the mid-point of FG.



Find the length of AM to 3 s.f.

(4 marks)

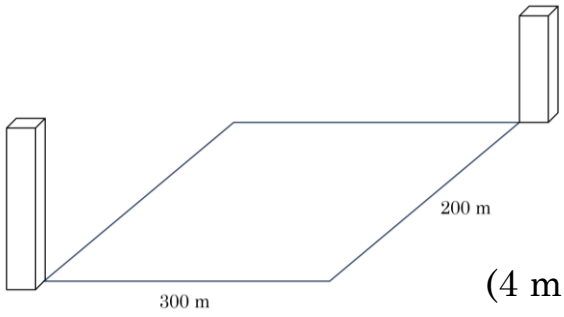
Q5. In the cone below, the circular base has diameter 32 cm and the slanting height is 65 cm. Find the volume to 1 d.p.



(4 marks)

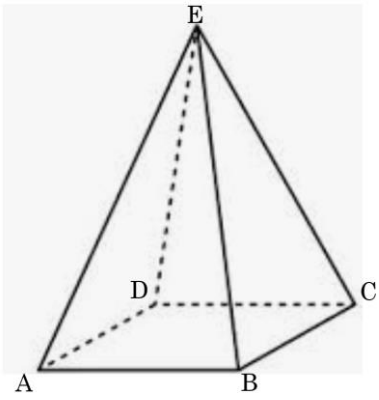
Q6. A stunt-man is going to connect the nearest corner of each tower with a wire, and slide between. The towers are 55 m and 45 m tall.

Find the distance he will travel.



(4 marks)

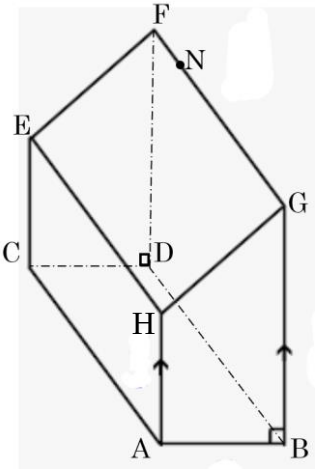
Q7. ABCDE is a square based pyramid where AE = 36 cm, EAC is 55°, and AB = 20 cm.



Find the volume of the pyramid to 3 s.f.

(4 marks)

Q8. Below is a prism.

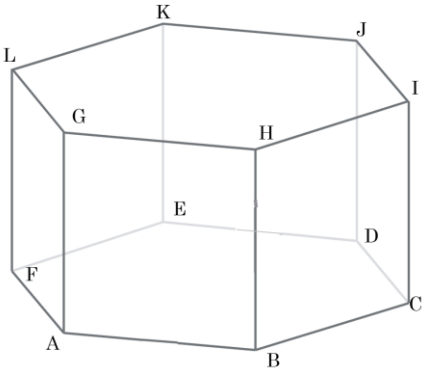


AC = 33, CD = 8
GN : NF = 8 : 3,
AH = 10, DF = 16

Find angle CAN correct to 2 d.p.

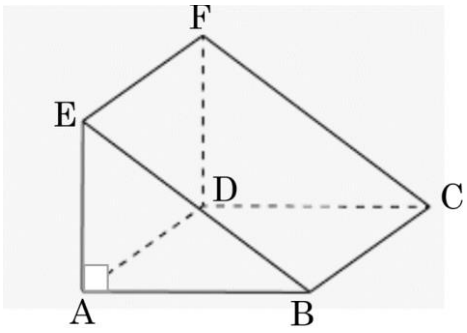
(7 marks)

Q9. In the regular hexagonal prism below, AH = $\sqrt{80}$, AG = 5.
Find angle KBJ to 1 d.p.



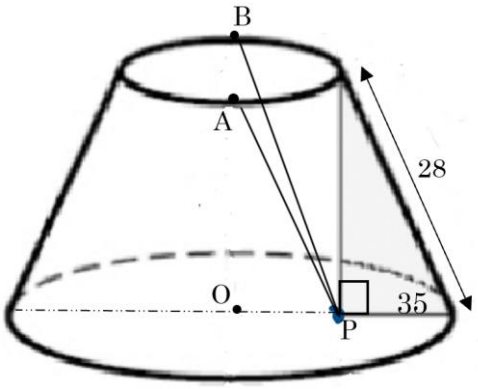
(6 marks)

Q10. In the prism, AB : EA : BC is 2 : 3 : 8. Find angle ACE to 1 d.p.



(4 marks)

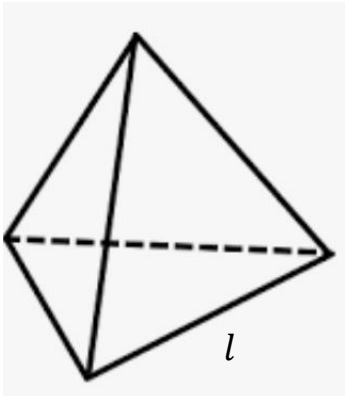
Q11. In the frustum, AB is a diameter of the top, O is the centre of the base, which has diameter 100.



Find angle PAB to 4 s.f.

(6 marks)

Q12. The tetrahedron below has 4 identical faces which are equilateral triangles.



Find the vertical height of the tetrahedron in terms of l giving your answer in the form $\frac{\sqrt{k}}{3}$ for some k. **[7]**