



Name: _____ Date: _____ Score: _____ / 41

- 1** ABCDEFGH is a cuboid with base ABCD and top face EFGH, where E is directly above A, F is directly above B, G is directly above C and H is directly above D.

$AB = 3 \text{ cm}$, $BC = 4 \text{ cm}$ and $CG = 12 \text{ cm}$.

Work out the length of AG.

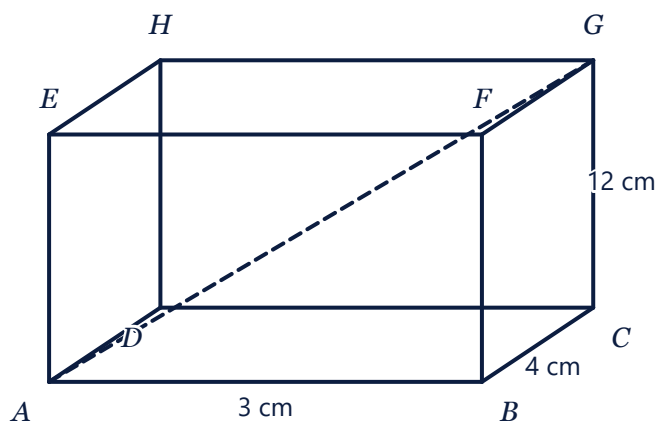


Diagram NOT accurately drawn

(2 marks)

Answer _____

- 2** A cuboid measures 5 cm by 7 cm by 9 cm.

Calculate the length of the longest straight rod that will fit exactly inside the cuboid.

Give your answer correct to 1 decimal place.

(3 marks)

Answer _____

- 3 VABCD is a pyramid. The base ABCD is a horizontal square with sides of length 10 cm. The vertex V is directly above the centre O of the base. The height VO of the pyramid is 12 cm. Calculate the length of the sloping edge VA. Give your answer correct to 3 significant figures.

(3 marks)

Answer _____

- 4 ABCDEFGH is a cuboid with base ABCD and top face EFGH, where E is directly above A, F is directly above B, G is directly above C and H is directly above D. AB = 8 cm, BC = 6 cm and CG = 5 cm. Calculate the size of the angle between the line AG and the plane ABCD. Give your answer correct to 1 decimal place.

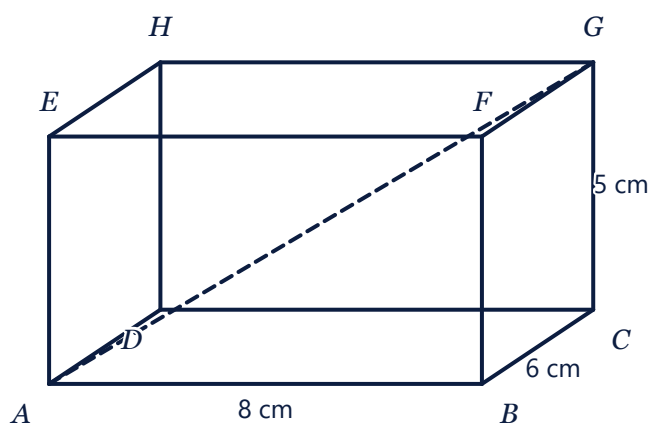


Diagram NOT accurately drawn

(4 marks)

Answer _____

5

A storage box is a cuboid PQRSTUVW with base PQRS and top face TUVW, where T is directly above P, U is directly above Q, V is directly above R and W is directly above S. $PQ = 9$ cm, $QR = 4$ cm and $RV = 7$ cm.

Work out the size of the angle that the line PV makes with the base PQRS.

Give your answer correct to 1 decimal place.

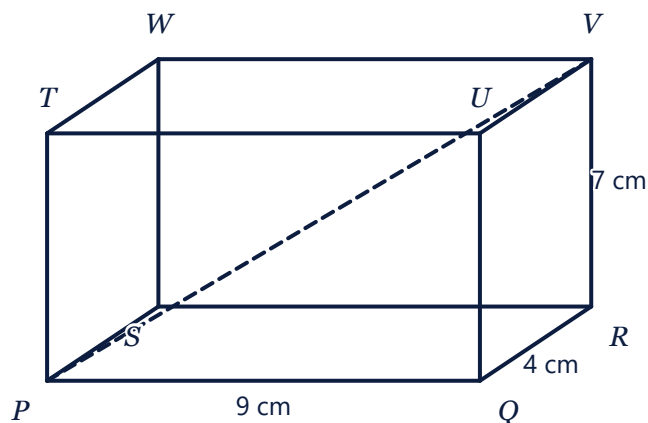


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 6 A pyramid has a horizontal square base ABCD with sides of length 12 cm. The vertex V is directly above the centre O of the base. The height VO of the pyramid is 8 cm. Calculate the size of the angle that the edge VA makes with the base ABCD. Give your answer correct to 1 decimal place.

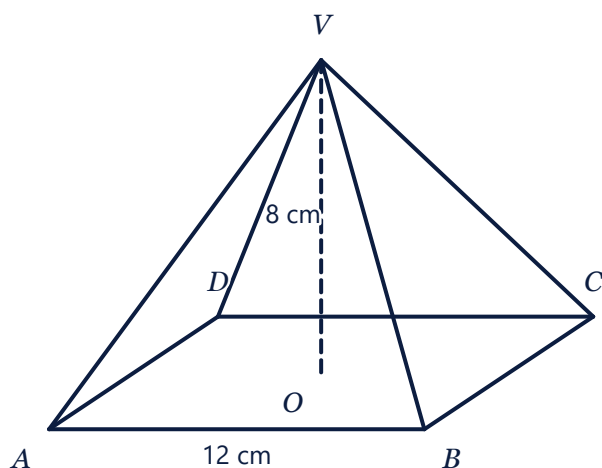


Diagram NOT accurately drawn

(4 marks)

Answer _____

7

The diagram shows a wedge ABCDEF.

The base ABCD is a horizontal rectangle with $AB = 24$ cm and $BC = 10$ cm.

E is vertically above D and F is vertically above C, with $DE = CF = 6$ cm.

ABFE is the sloping face of the wedge.

Work out the size of the angle between the line AF and the base ABCD.

Give your answer correct to 1 decimal place.

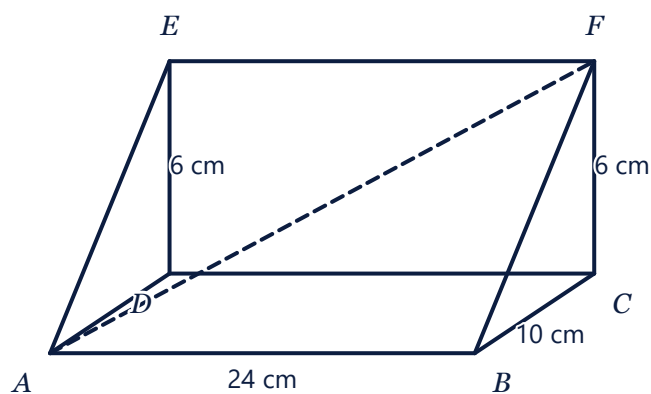


Diagram NOT accurately drawn

(4 marks)

Answer

8

ABCDEFGH is a cuboid with base ABCD and top face EFGH, where E is directly above A, F is directly above B, G is directly above C and H is directly above D.

$AB = 5 \text{ cm}$, $BC = 12 \text{ cm}$ and $CG = 9 \text{ cm}$.

Calculate the size of the angle between the line AG and the plane BCGF.

Give your answer correct to 1 decimal place.

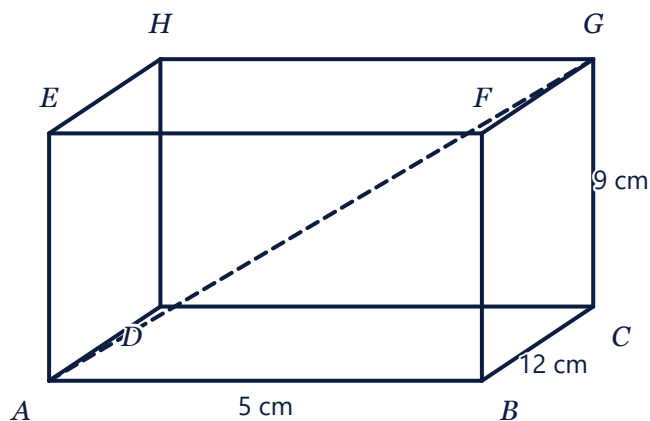


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 9** A pyramid has a horizontal square base ABCD with sides of length 16 cm. The vertex V is directly above the centre O of the base. The height VO of the pyramid is 15 cm. M is the midpoint of BC. Calculate the size of the angle between the face VBC and the base ABCD. Give your answer correct to 1 decimal place.

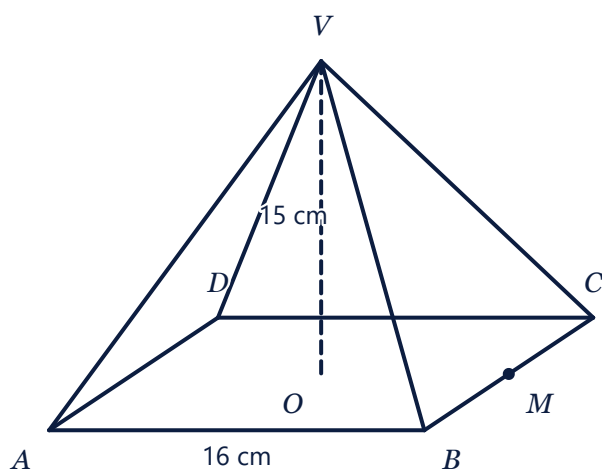


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 10** A cuboid has a square base and a height of 8 cm. The length of the longest diagonal of the cuboid, from one corner of the base to the opposite corner of the top face, is 12 cm. Work out the volume of the cuboid.

(4 marks)

Answer _____

11 The diagram shows a tent in the shape of a prism.

The base ABCD is a horizontal rectangle with $AB = 16$ m and $BC = 6$ m.

The ridge EF is horizontal and runs parallel to AB, directly above the middle of the base, with E at the end above AD and F at the end above BC.

The ridge is 4 m above the base.

Work out the size of the angle between the line AF and the base ABCD.

Give your answer correct to 1 decimal place.

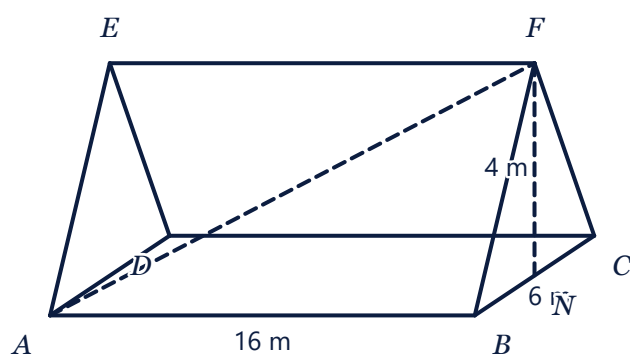


Diagram NOT accurately drawn

(5 marks)

Answer _____

End of questions | Total 41 marks