

3D Pythagoras & SOHCAHTOA

Difficulty: Hard

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Trigonometry
Sub-Topic	3D Pythagoras & SOHCAHTOA
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 2

Time allowed: 28 minutes

Score: /22

Percentage: /100

Grade Boundaries:

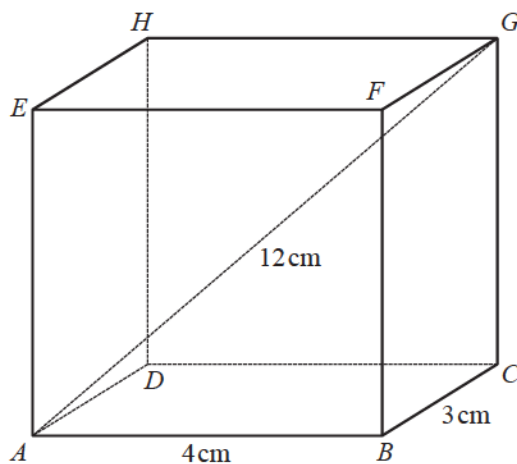
CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1



NOT TO
SCALE

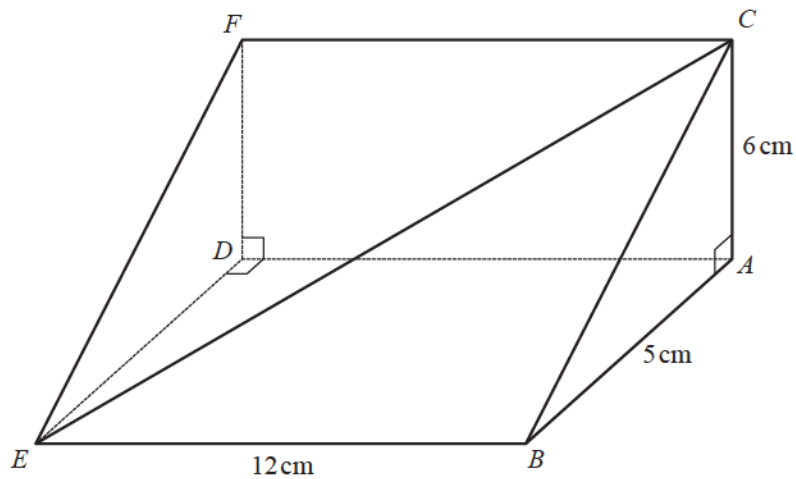
$ABCDEFGH$ is a cuboid.

$AB = 4$ cm, $BC = 3$ cm and $AG = 12$ cm.

Calculate the angle that AG makes with the base $ABCD$.

[4]

Question 2



NOT TO
SCALE

The diagram shows a triangular prism of length 12 cm.

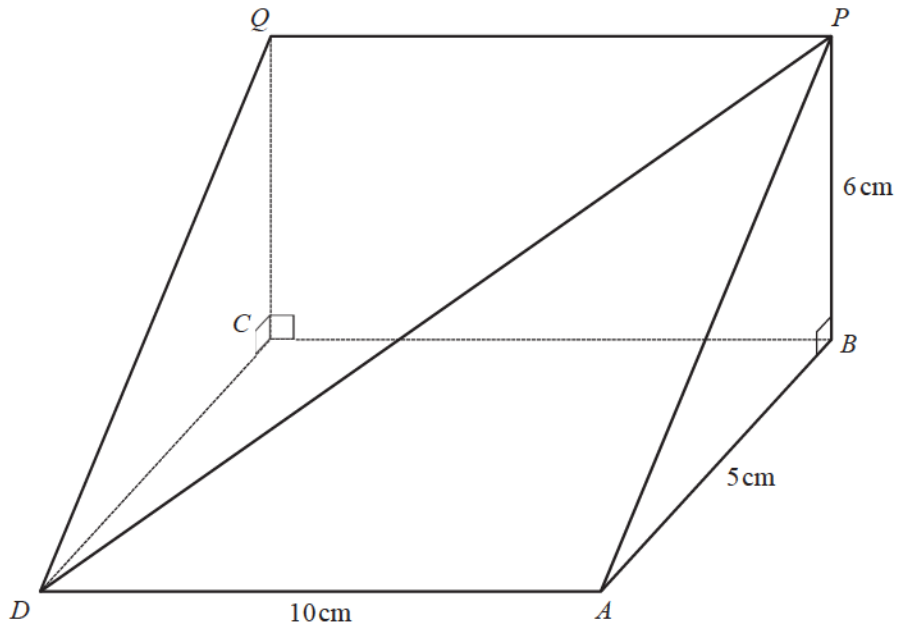
Triangle ABC is a cross section of the prism.

Angle $BAC = 90^\circ$, $AC = 6$ cm and $AB = 5$ cm.

Calculate the angle between the line CE and the base $ABED$.

[4]

Question 3



NOT TO
SCALE

The diagram shows a triangular prism.
 $ABCD$ is a horizontal rectangle with $DA = 10$ cm and $AB = 5$ cm.
 $BCQP$ is a vertical rectangle and $BP = 6$ cm.

Calculate

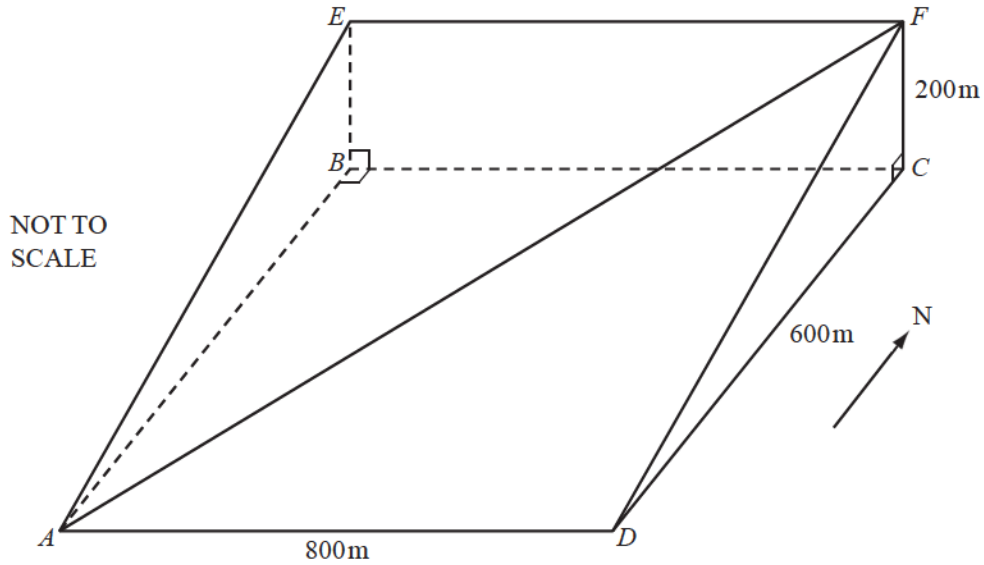
(a) the length of DP ,

[3]

(b) the angle between DP and the horizontal rectangle $ABCD$.

[3]

Question 4



$ABCD$, $BEFC$ and $AEFD$ are all rectangles.

$ABCD$ is horizontal, $BEFC$ is vertical and $AEFD$ represents a hillside.

AF is a path on the hillside.

$AD = 800\text{m}$, $DC = 600\text{m}$ and $CF = 200\text{m}$.

(a) Calculate the angle that the path AF makes with $ABCD$.

[5]

(b) In the diagram D is due south of C .

Jasmine walks down the path from F to A in bad weather. She cannot see the path ahead.

The compass bearing she must use is the bearing of A from C .

Calculate this bearing.

[3]