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)

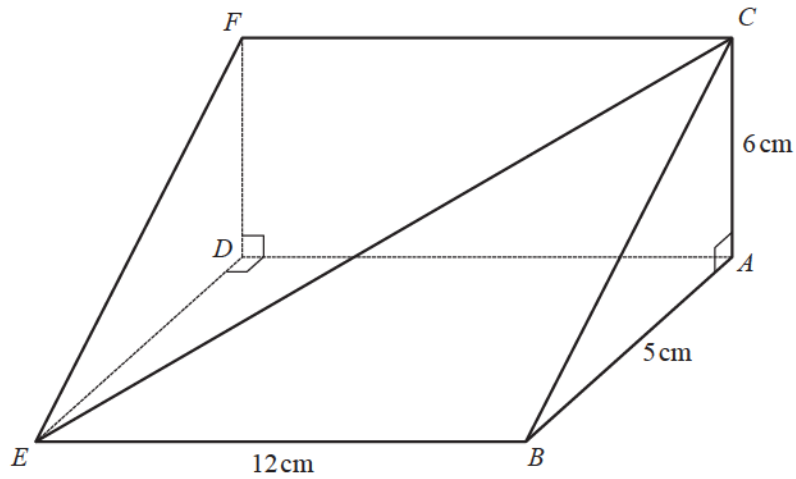| 9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%
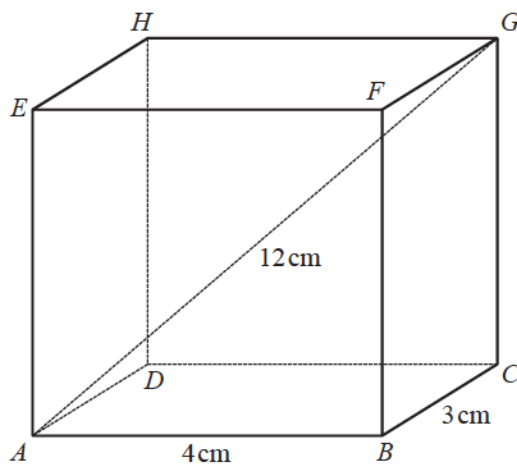
NOT TO
SCALE

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]
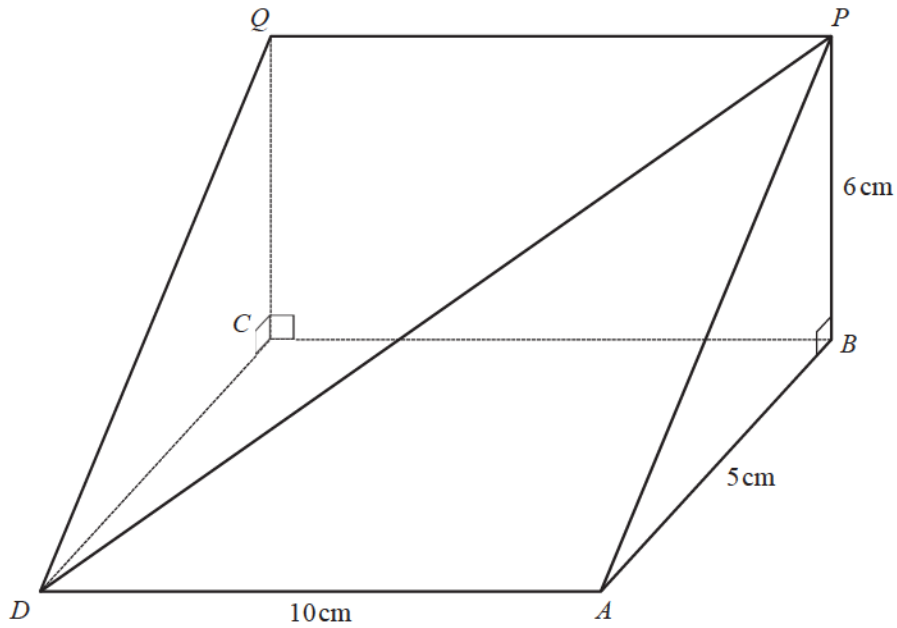
NOT TO SCALE

The diagram shows a triangular prism of length 12 cm.
Triangle ABC is a cross section of the prism.
Angle $BAC = 90°$, $AC = 6$ cm and $AB = 5$ cm.

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

[4]

NOT TO
SCALE

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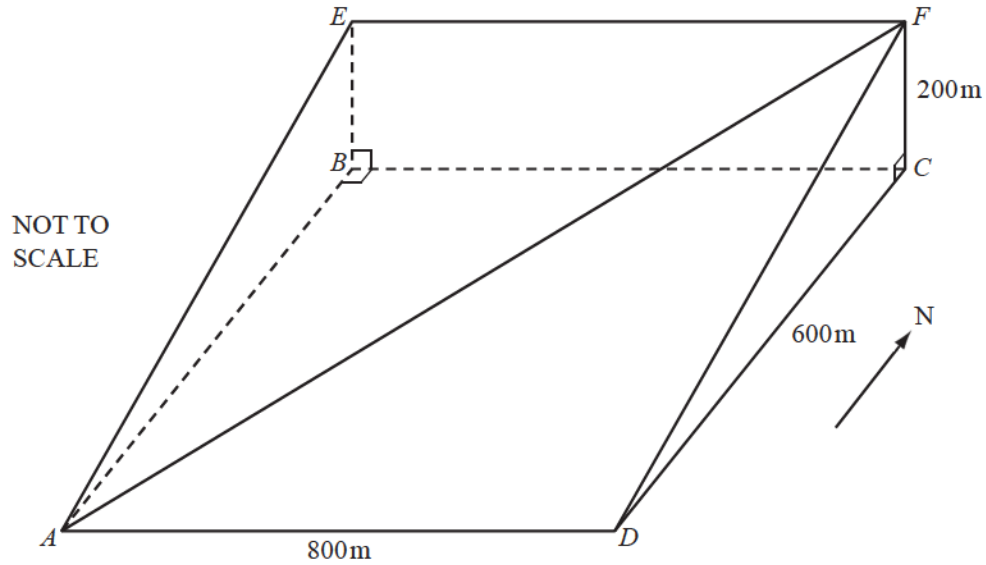$BCQP$ is a vertical rectangle and $BP = 6$ cm.

Calculate

(a) the length of DP,

[3]

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

[3]

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 m, *DC* = 600 m and *CF* = 200 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]