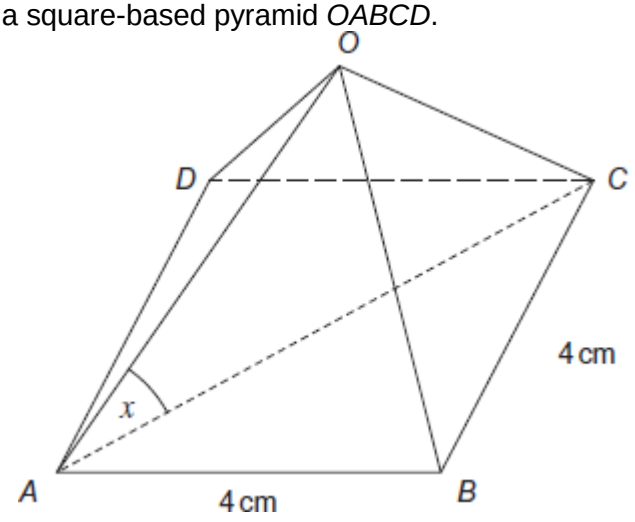
Q1.

The diagram shows a square-based pyramid *OABCD*.



OA = *OB* = *OC* = *OD* = 6 cm
AB = *BC* = 4 cm

Work out the size of the angle between *OA* and the base *ABCD*, marked *x* on the diagram.

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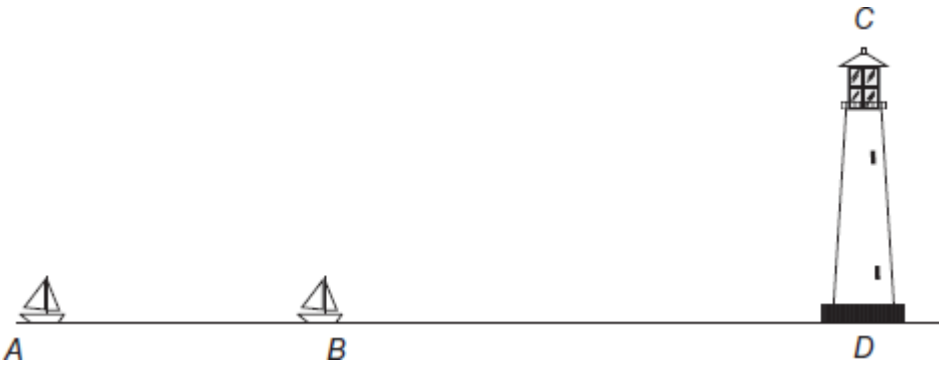
Answer ..... degrees

(Total 4 marks)

Q2.

The diagram shows two positions, *A* and *B*, of a boat sailing directly towards a lighthouse, *CD*.

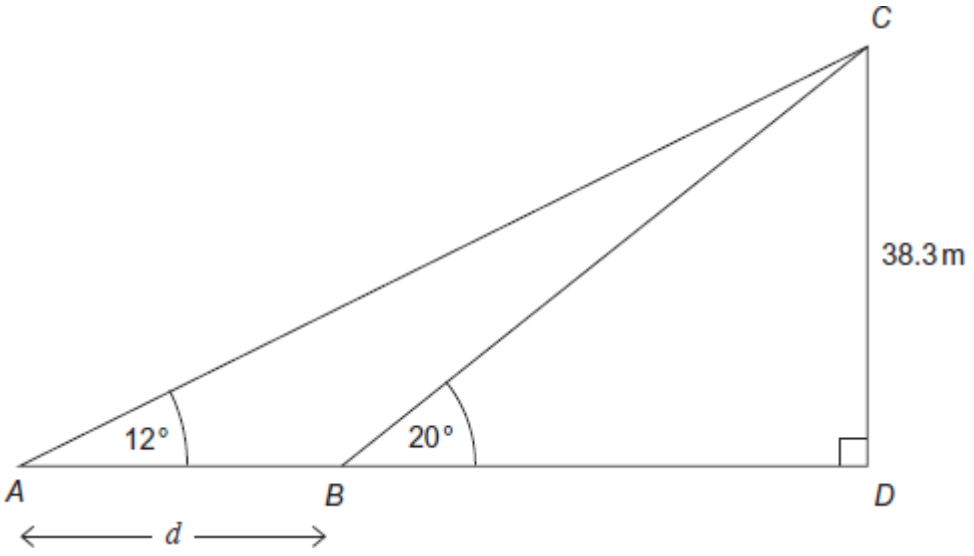
Not drawn accurately



- The vertical height of the lighthouse is 38.3 m
- The angle of elevation of *C* from *A* is 12°
- The angle of elevation of *C* from *B* is 20°

This information can be modelled by the diagram below.

Not drawn accurately



Work out d, the distance the boat sails between *A* and *B*.

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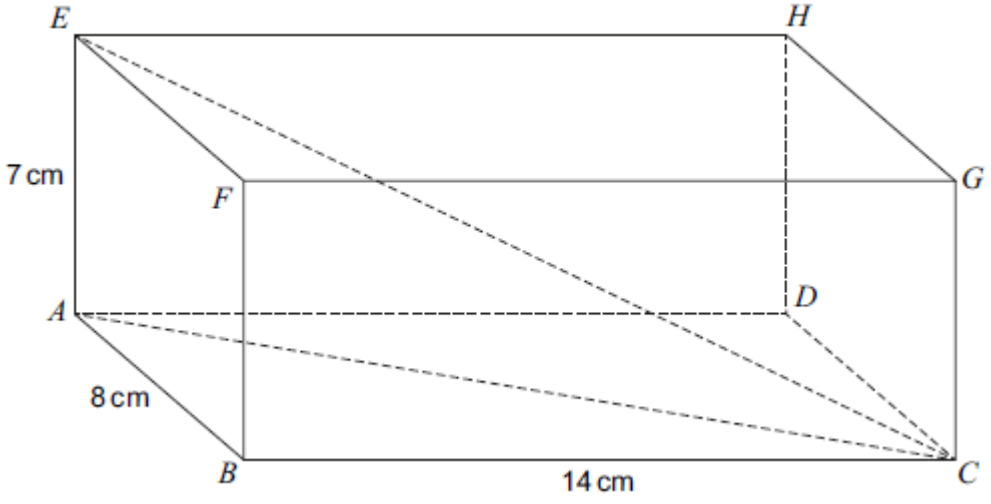
Answer ..... m

(Total 5 marks)

Q3.

$ABCDEFGH$ is a cuboid.



Work out the angle between EC and $ABCD$.

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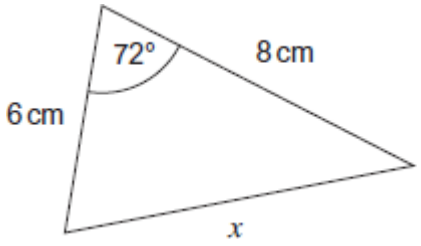
Answer..... degrees

(Total 3 marks)

Q4.

Work out the length x for this triangle.

Not drawn accurately



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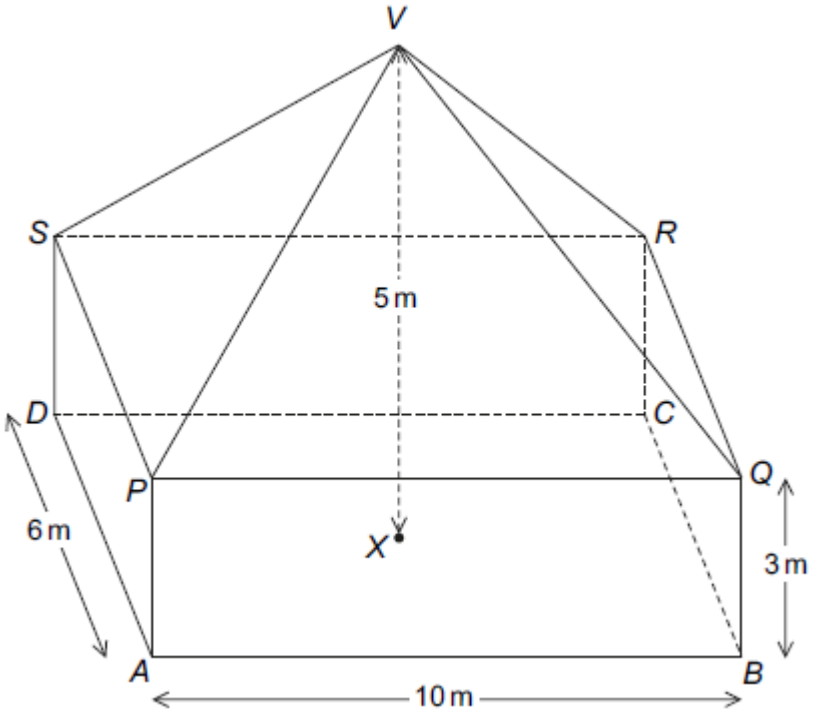
Answer ..... cm

(Total 3 marks)

Q5.

The diagram shows a cuboid *ABCDPQRS* and a pyramid *PQRSV*.
V is directly above the centre, *X*, of *ABCD*.



The total height, *VX*, is 5 metres.

(a) Work out the angle between the line *VA* and the plane *ABCD*.

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Answer ..... degrees

(4)

(b) Work out the angle between the planes *VQR* and *PQRS*.

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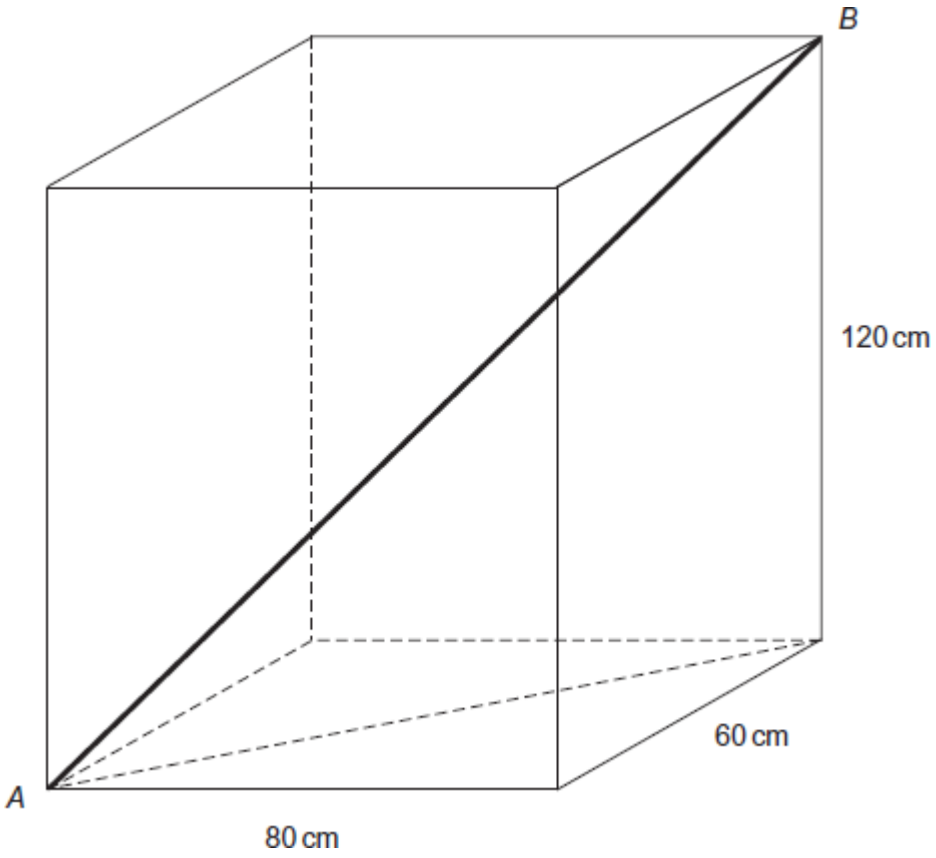
Answer ..... degrees

(2)
(Total 6 marks)

Q6.

A cupboard is in the shape of a cuboid.
A pool cue will just fit in the cupboard if it is placed diagonally as shown.



Work out the length of the pool cue, marked *AB* on the diagram.

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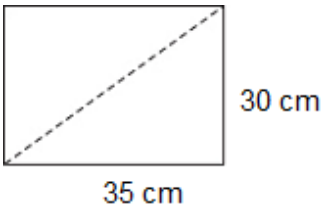
Answer ..... cm

(Total 3 marks)

Q7.(a) The diagram shows a rectangle.

Not drawn accurately



Work out the length of the diagonal.

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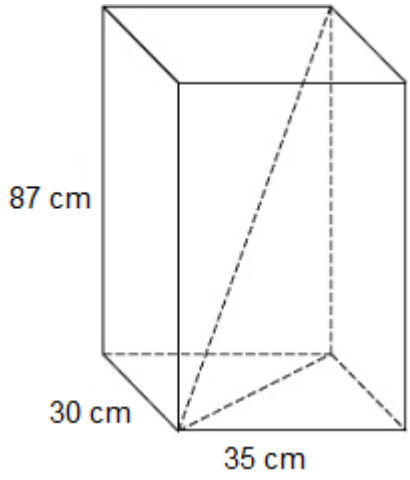
Answer ..... cm

(3)

(b) The rectangle in part (a) is the base of this box.
The box is a cuboid.



Will a straight rod of length 1 metre fit in the box?
You **must** show your working.

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(3)
(Total 6 marks)

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