

Cambridge O Level MATHEMATICS (SYLLABUS D) 4024

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Paper 1 Non-calculator

May/June 2025

Questions (3-4)

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- 3 The area of one face of a cube is 9 cm^2 .

On the 1 cm grid, draw an accurate net of the cube.



Solution:

First, find the side length of the cube:

- Area of one face = 9 cm^2
- Since each face is a square:
side \times side = 9
side = **3 cm**

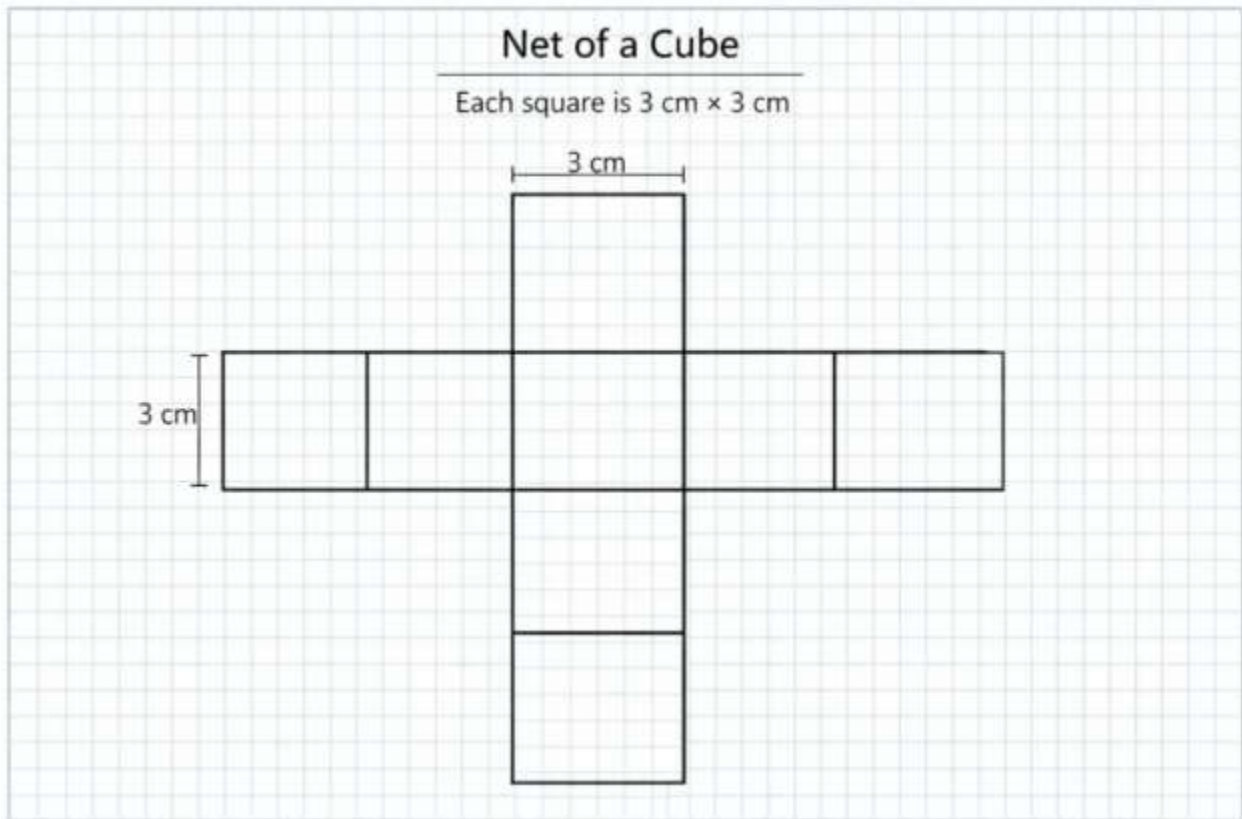
Now draw the net of the cube on a 1 cm grid:

- Each square face will be **3 cm \times 3 cm** (i.e., 3×3 grid squares).

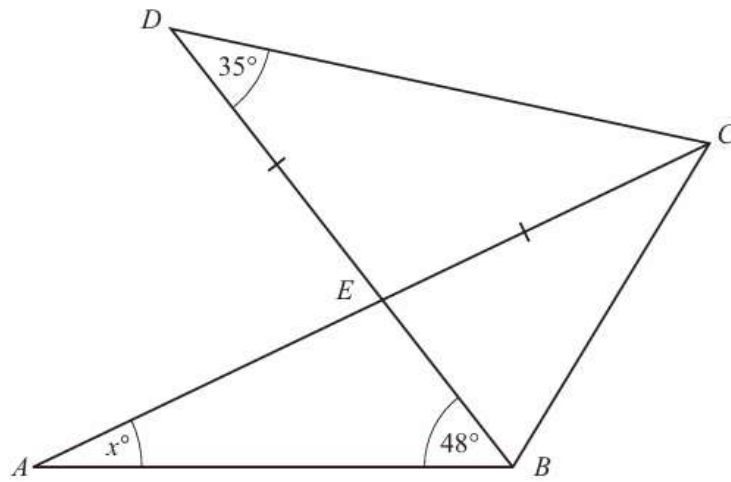
Step-by-step:

1. Draw **4 squares in a row**, each $3 \text{ cm} \times 3 \text{ cm}$
2. Attach **1 square above** the second square

3. Attach **1 square below** the second square



4

NOT TO
SCALE

AEC and BED are straight lines.
 $ED = EC$.

Find the value of x .

$x = \dots\dots\dots$ [3]

Solution:

As $ED = EC$ (given)

$\therefore \triangle CDE$ is an isosceles triangle.

$\Rightarrow \hat{CDE} = \hat{DCE} = 35^\circ$ (base \angle s of isosceles \triangle)

$$35^\circ + 35^\circ + \hat{CED} = 180 \quad (\angle \text{sum of } \triangle)$$

$$\hat{CED} = 180 - 35 - 35^\circ$$

$$\hat{CED} = 110^\circ$$

$$\hat{AEB} = \hat{CED} = 110^\circ \quad (\text{vertical opp } \angle\text{s})$$

In $\triangle ABE$,

$$x^\circ + 48^\circ + 110^\circ = 180 \quad (\angle \text{sum of } \triangle)$$

$$x^\circ + 158^\circ = 180$$

$$x^\circ = 180 - 158$$

$$x^\circ = 22^\circ$$

