# Cambridge O Level MATHEMATICS (SYLLABUS D) 4024

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**Paper 1 Non-calculator** **May/June 2025**

## Questions (3-4)

**3** The area of one face of a cube is $9\,\text{cm}^2$.

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 cm²
- Since each face is a square:
  side × side = 9
  side = **3 cm**

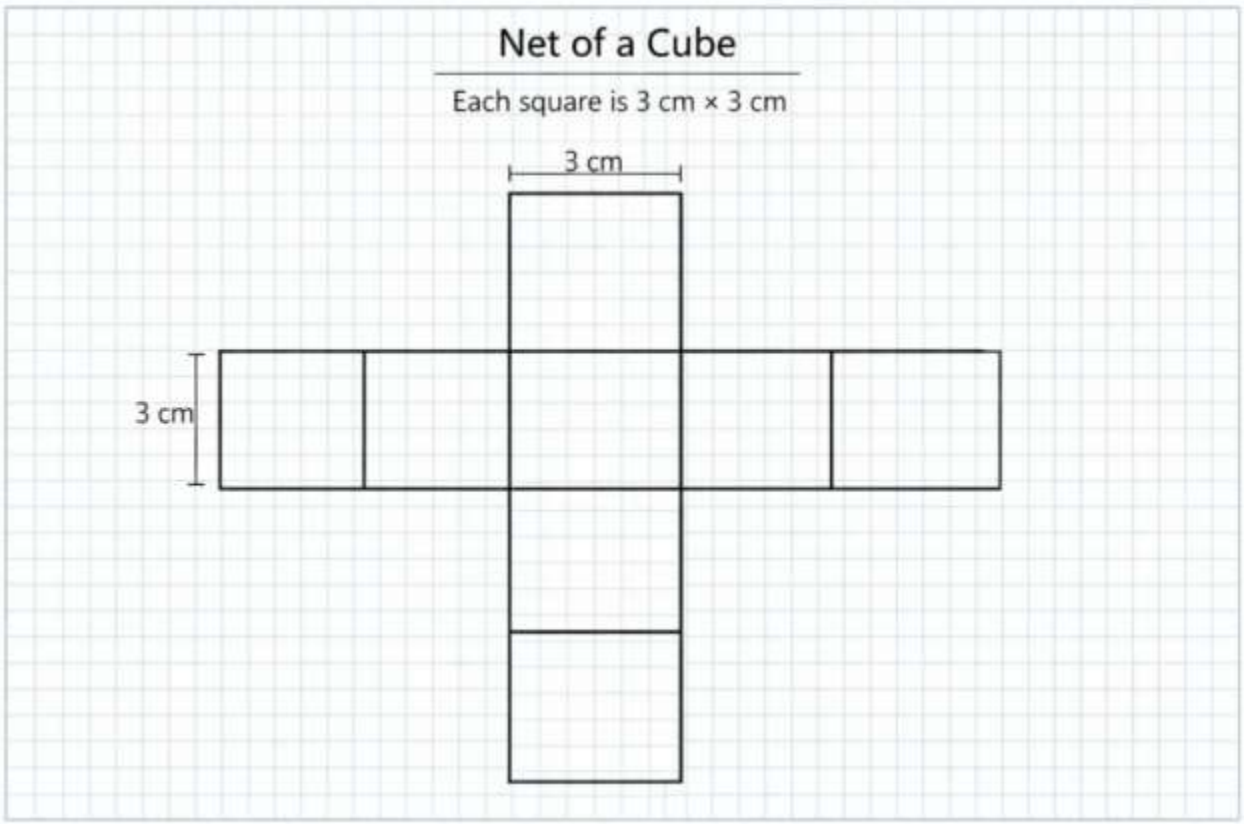
## Now draw the net of the cube on a 1 cm grid:

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

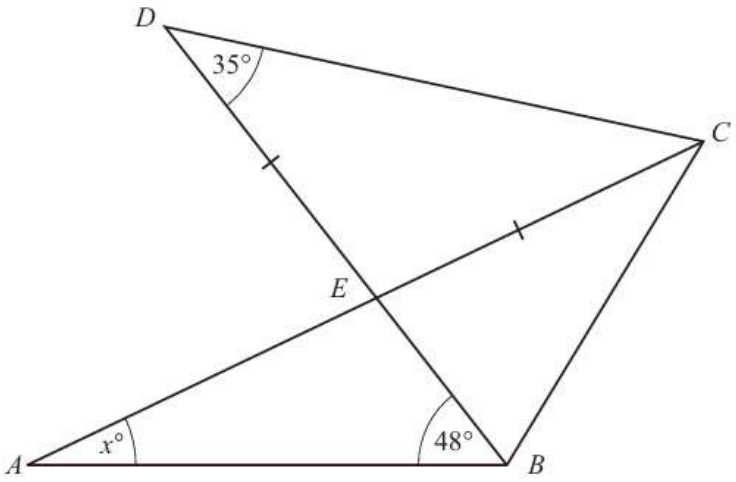
**Step-by-step:**

1. Draw **4 squares in a row**, each 3 cm × 3 cm
2. Attach **1 square above** the second square

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



**4**



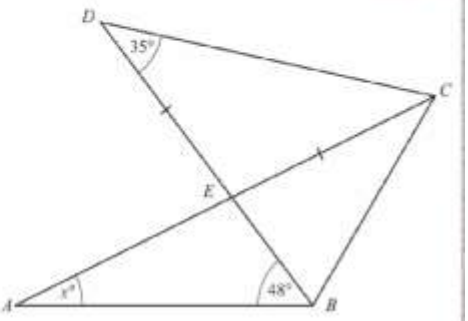

NOT TO SCALE

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

Find the value of $x$.

$x =$ ..... [3]

**Solution:**




As $ED = EC$ (given)

$\therefore \triangle CDE$ is an isosceles triangle

$\Rightarrow C\hat{D}E = D\hat{C}E = 35^\circ$ (base $\angle$s of isosceles $\triangle$)

$35^\circ + 35^\circ + C\hat{E}D = 180$ ($\angle$ sum of $\triangle$)

$C\hat{E}D = 180 - 35^\circ - 35^\circ$

$C\hat{E}D = 110^\circ$

$A\hat{E}B = C\hat{E}D = 110$ (vertical opp $\angle$s)

In $\triangle ABE$,

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

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

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

$x^\circ = 22^\circ$