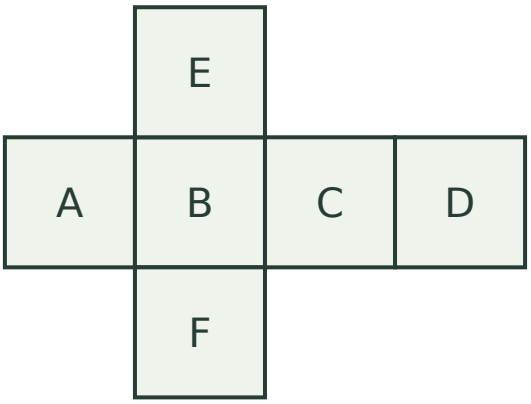
# Constructing objects

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

**1.** Draw a valid cube net with square edges 2 cm long. Label each face. [3 marks]




Each square has sides of 2 cm.

Use six equal squares; a row of four with one above and one below the second square is valid.

Check equal shared edges.

**Answer:** Any valid six-square cube net with 2 cm edges.

**2.** Find the total face area of a cube whose edges are 3 cm. [2 marks]

Each face has area $3 \times 3 = 9$.

Six faces have area $6 \times 9 = 54$.

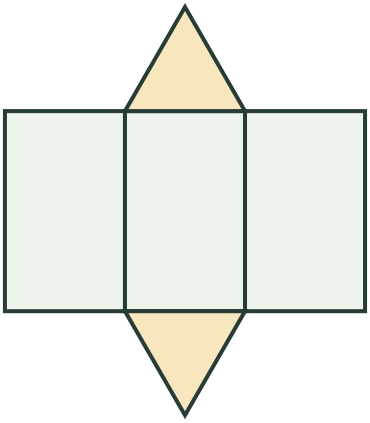
**Answer:** 54 square centimetres.

**3.** A box measures 5 cm by 3 cm by 2 cm. List all six face sizes. [3 marks]

Use one pair for each pair of dimensions.

**Answer:** Two $5 \times 3$ cm; two $5 \times 2$ cm; two $3 \times 2$ cm.

**4.** A triangular prism has equilateral triangular ends of side 3 cm and length 5 cm. What rectangular side panels are needed? [2 marks]



Each of the triangle's three 3 cm sides extends along the prism's 5 cm length.

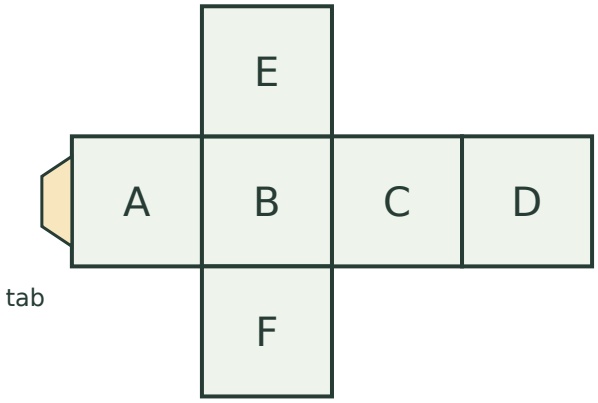
**Answer:** Three rectangles, each 3 cm by 5 cm.

**5.** Explain why a 4 cm edge should not be joined to a 3 cm edge without cutting or changing the model. [2 marks]

The 1 cm difference leaves an overhang or a gap.

**Answer:** Their endpoints will not match.

**6.** Draw one joining tab on a cube-net sketch and explain whether it counts as a seventh face. [2 marks]




Each square has sides of 2 cm.

The cube still has six outside square faces.

**Answer:** The tab is outside an edge and folds inside; it is not another face.