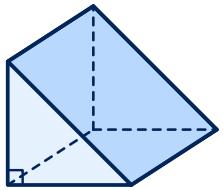
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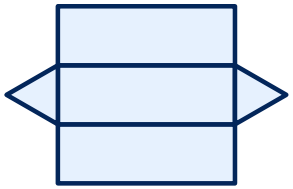
# Properties of 3D shapes

**1** Here is a triangular prism.



Write down the number of faces, edges and vertices.

**2** Here is the net of a 3D shape.

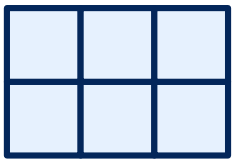


Name the 3D shape.

**3** A pentagonal prism has 7 faces, 10 vertices and 15 edges.

Show that faces + vertices – edges = 2.

**4** Ella says this is the net of a cube.



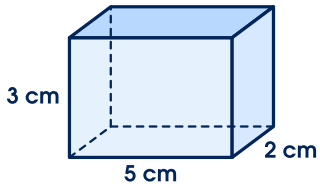
Explain why Ella is wrong.

**5** A prism has 18 edges.

(a) Name the prism.

(b) How many faces and vertices does it have?

**6** A cuboid is 5 cm by 3 cm by 2 cm.




Work out the total surface area of the cuboid.

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# Properties of 3D shapes

**1** Faces **5**, edges **9**, vertices **6**

**2** **Triangular prism**

**3** 7 + 10 − 15 = **2** ✓

**4** Some faces would overlap when folded: a 2 by 3 block cannot close up into a cube.

**5** A prism has $3n$ edges, where $n$ is the number of sides of its end face: $n = 6$.

(a) **Hexagonal prism**

(b) Faces **8**, vertices **12**

**6** $2 \times (5\times3 + 5\times2 + 3\times2)$

$= 2 \times 31 =$ **62 cm$^2$**