Explaining spatial relationships

6 questions | 10 marks

Equivalent correct methods earn the corresponding marks.

1. State the faces, edges and vertices of a cube. [3 marks]

Count the folded solid; each edge is shared by two faces.

Answer: 6 faces, 12 edges, 8 vertices.

2. A square pyramid has four base edges and four edges from the base corners to the apex. How many edges? [1 mark]

$4 + 4 = 8$.

Answer: 8 edges.

3. A triangular prism has two triangular ends. Count its vertices. [1 mark]

Each end has 3 corners; $2 \times 3 = 6$.

Answer: 6 vertices.

4. A solid has five faces: two triangles and three rectangles. Name it. [1 mark]

The matching triangular ends are joined by three rectangular sides.

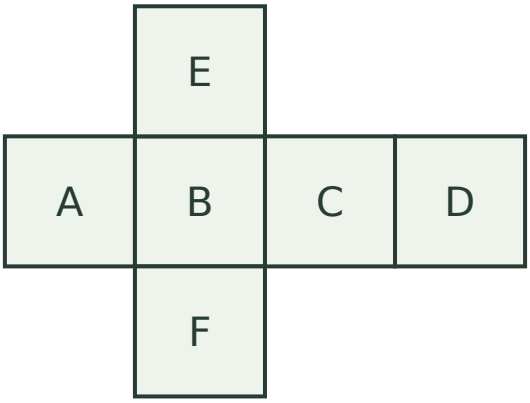
Answer: Triangular prism.

5. Can a cube and a rectangular prism have the same face, edge and vertex counts? Explain. [2 marks]

Both have 6 faces, 12 edges and 8 vertices. Equal edge lengths distinguish a cube.

Answer: Yes.

6. In the labelled cube net, will faces B and D touch along an edge after folding? Explain. [2 marks]



They become opposite faces of the cube.

Answer: No.