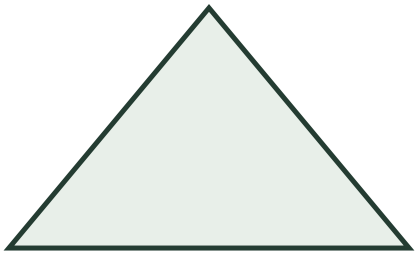
Prism cross-sections

6 questions | 10 marks

Equivalent correct methods earn the corresponding marks.

1. A triangular prism is cut parallel to its end faces. Name and sketch the section. [2 marks]



triangle

The cross-section matches the triangular ends.

Answer: A triangle.

2. A pentagonal prism is cut perpendicular to its length. How many sides does the section have? [1 mark]

The section matches a pentagonal end face.

Answer: 5 sides

3. A rectangular prism is cut parallel to its rectangular ends. Name the section. [1 mark]



rectangle

Parallel sections of a uniform prism match its ends.

Answer: A rectangle.

4. The end of a prism is a rectangle 4 cm by 2 cm. A parallel section is cut. Find its area. [2 marks]

The section has the same dimensions as the end.

$4 \times 2 = 8\,\text{cm}^2$.

Answer: $8\,\text{cm}^2$

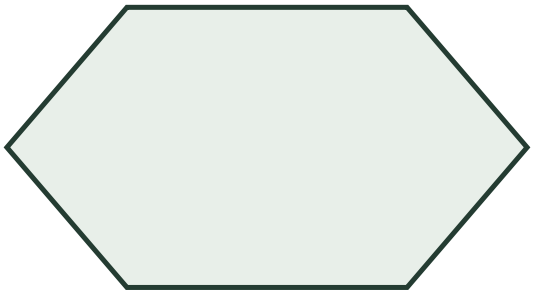
5. A student says every possible cut through a rectangular prism must show a rectangle. Is that guaranteed? Explain. [2 marks]

A cut parallel to a rectangular end gives a rectangle.

A slanted cut is not guaranteed to have that same shape.

Answer: No. The direction of the cut matters.

6. A prism has matching hexagonal ends. Draw the shape of a section parallel to the ends and state its number of sides. [2 marks]



hexagon

The section matches an end face.

Answer: A hexagon with 6 sides.