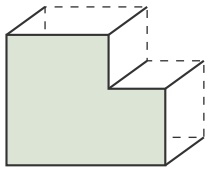
Use the π key unless a question says otherwise. Give answers to one decimal place where they are not exact. **Write the area of the cross-section on its own line before using the length.**

1 Find the volume of this prism. It is 8 cm long.

The cross-section is a rectangle 6 cm by 5 cm with a square of side 2 cm removed from one corner.



(a) Find the area of the cross-section (2)

(b) Find the volume (1)

(3 marks)

2 A prism is 8 cm long. Its cross-section is an N shape made from three rectangles: 2×5, 3×3 and 2×5.

(a) Find the area of the cross-section (2)

(b) Find the volume (1)

(3 marks)

3 A prism 15 cm long has a cross-section made from a rectangle 10 cm by 4 cm with a semicircle of radius 2 cm added to one of the short sides.

(a) Find the area of the rectangle (1)

(b) Find the area of the semicircle (2)

(c) Find the volume of the prism (2)

(5 marks)

4 A step is made from two cuboids. The lower one is 30 cm by 20 cm by 15 cm. The upper one sits on top of it and is 30 cm by 10 cm by 15 cm.

(a) **Explain why this solid is a prism.** (2)

(b) Find the area of that cross-section (2)

(c) Find the volume (1)

(5 marks)