

Design and Technology
COMPONENT 1: Metals

Monday 19 June 2023 – Morning

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

THIS DIAGRAM BOOKLET MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.

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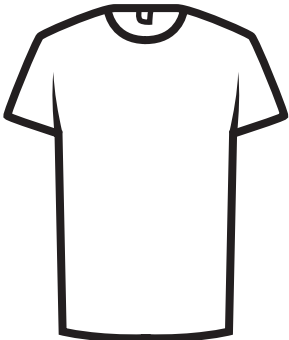
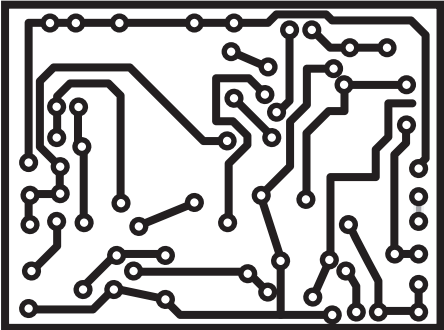
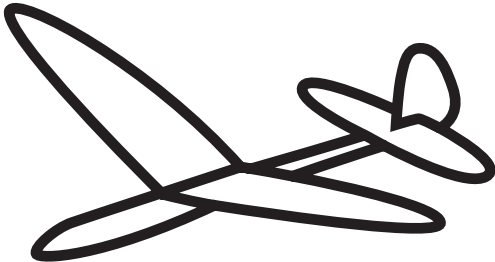
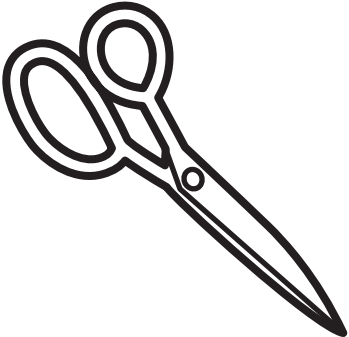
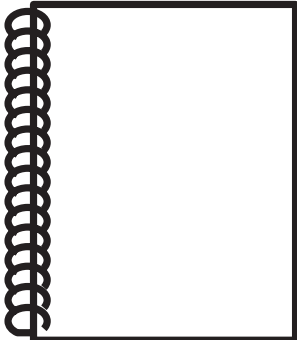
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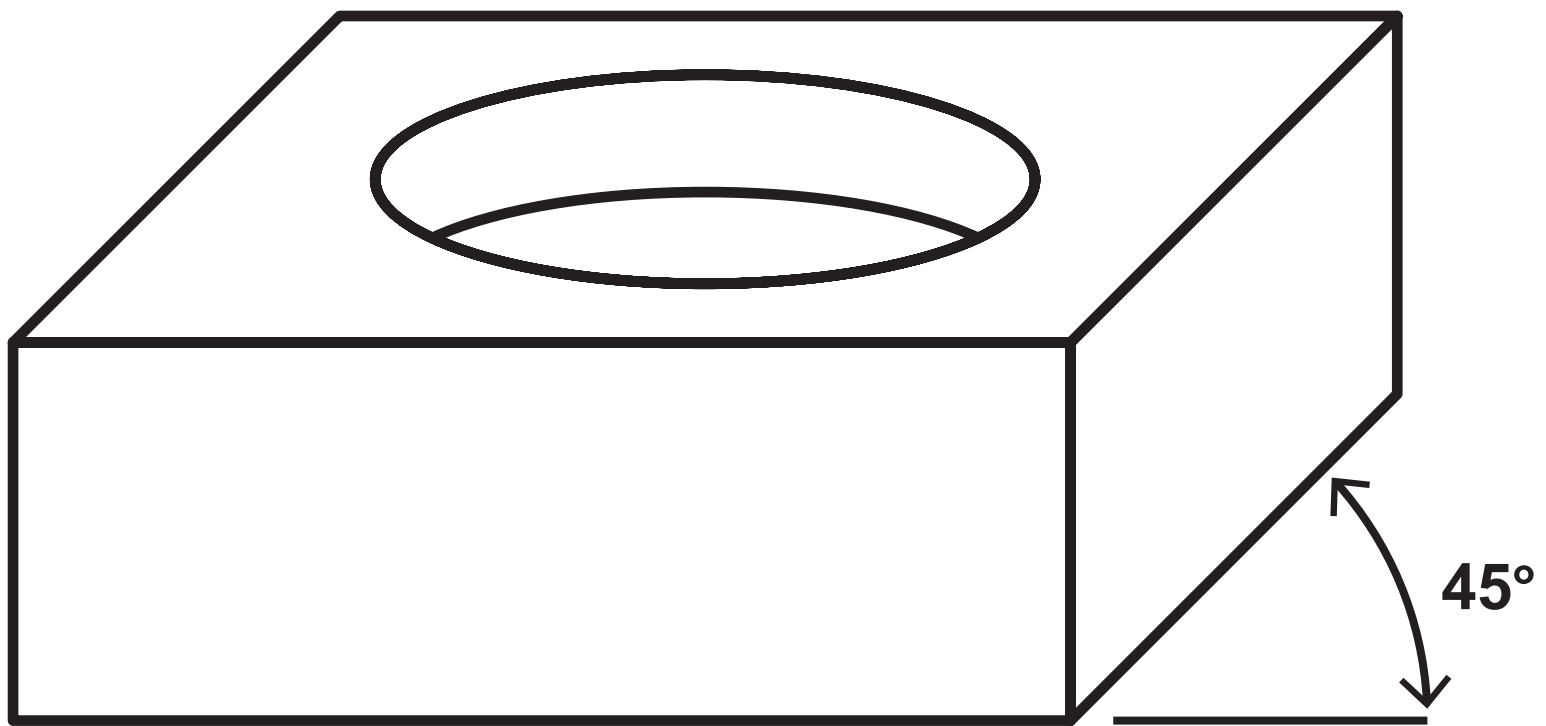
Question 1(a)

FIGURE 1

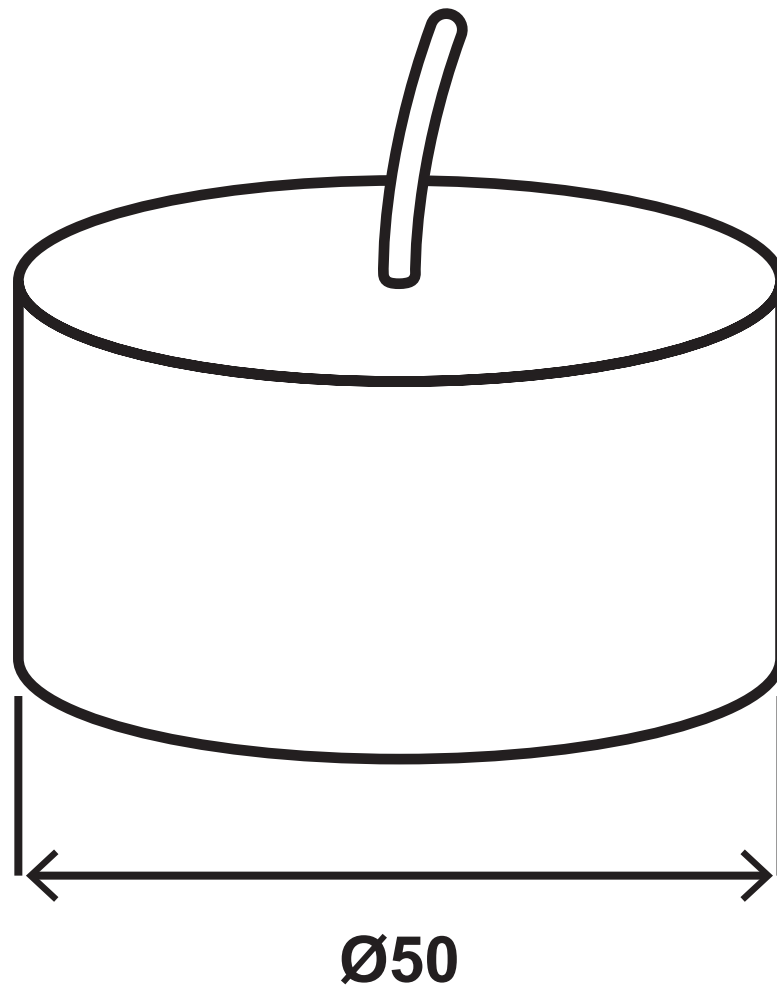
Picture of product	Material and product	Property
	Cotton T-shirt	Soft
	Polyester resin printed circuit board (PCB)	(i) _____
	Balsa wood toy plane	(ii) _____
	Stainless steel kitchen scissors	(iii) _____
	Solid white board hardback book cover	(iv) _____

Question 2

FIGURE 2



Question 2(c)

FIGURE 3**All dimensions in mm****Ø – diameter**

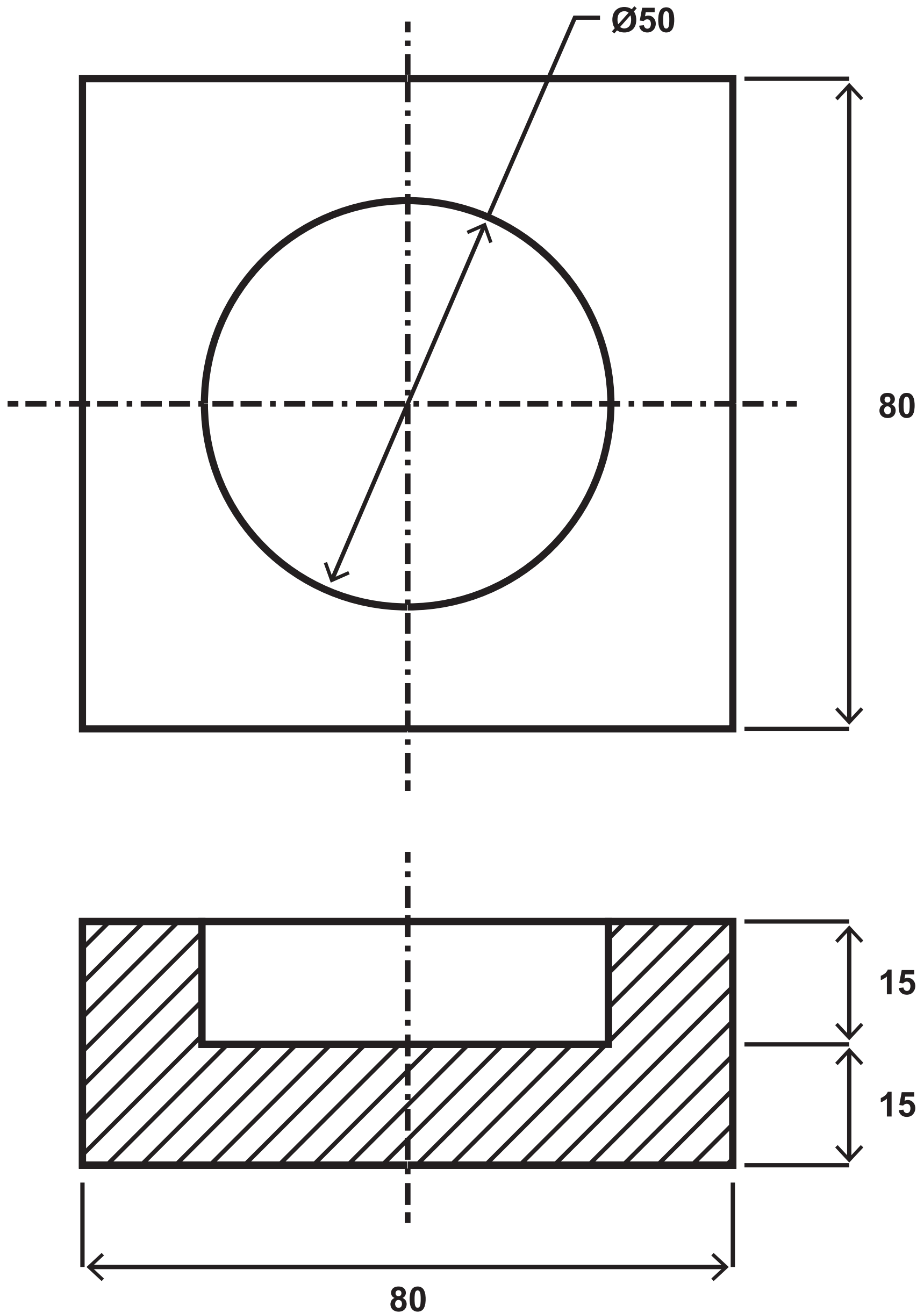
Question 2(d)

FIGURE 4

$$\text{Volume of cylinder} = \pi \times r^2 \times h$$

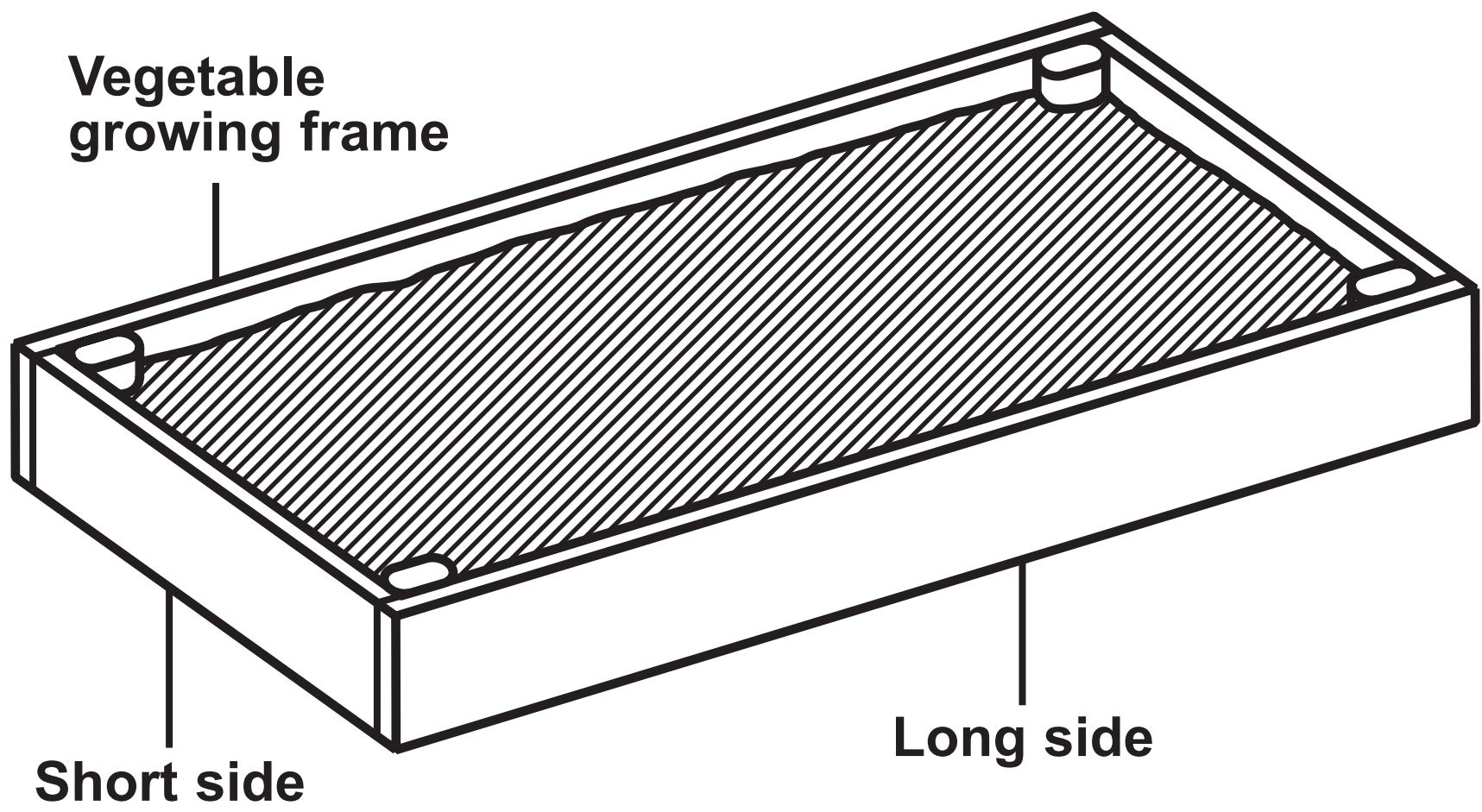
$$\text{Use } \pi = 3.142$$

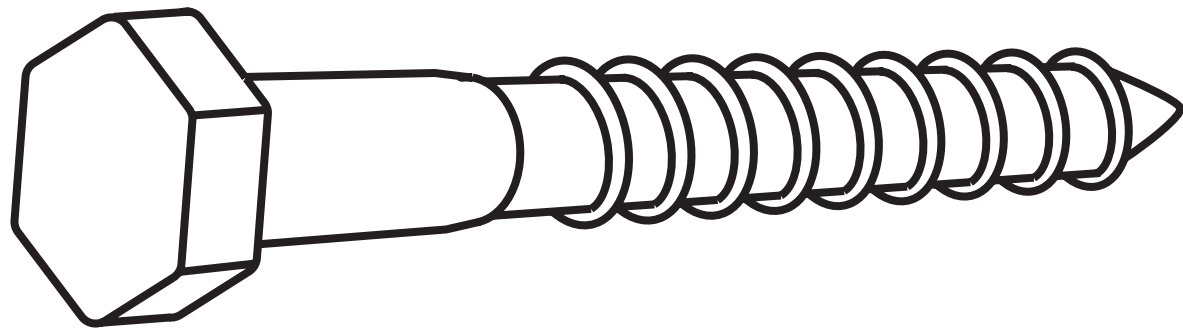
All dimensions in mm



Question 3

FIGURE 5



Question 3(d)**FIGURE 6**

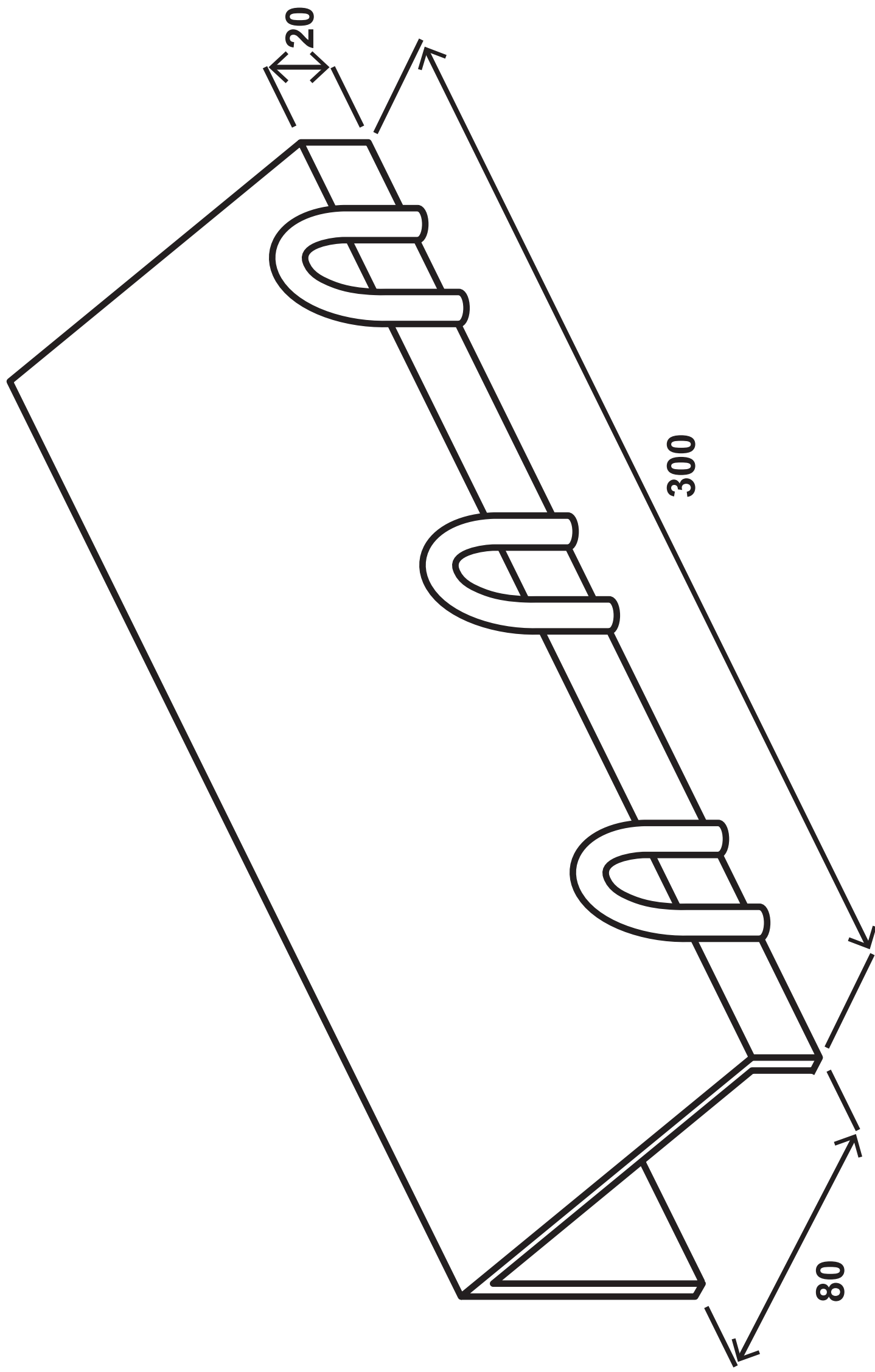
Question 4

FIGURE 7



FIGURE 8

All dimensions in mm

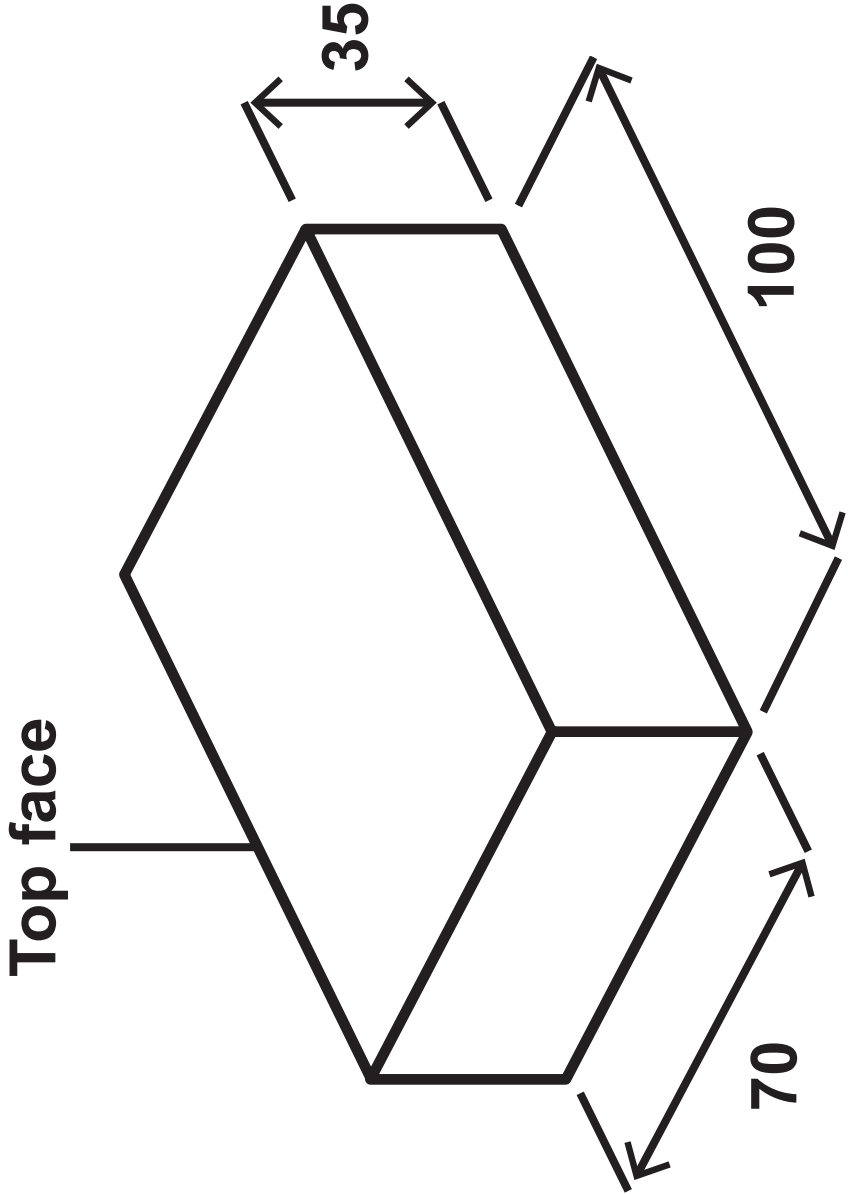


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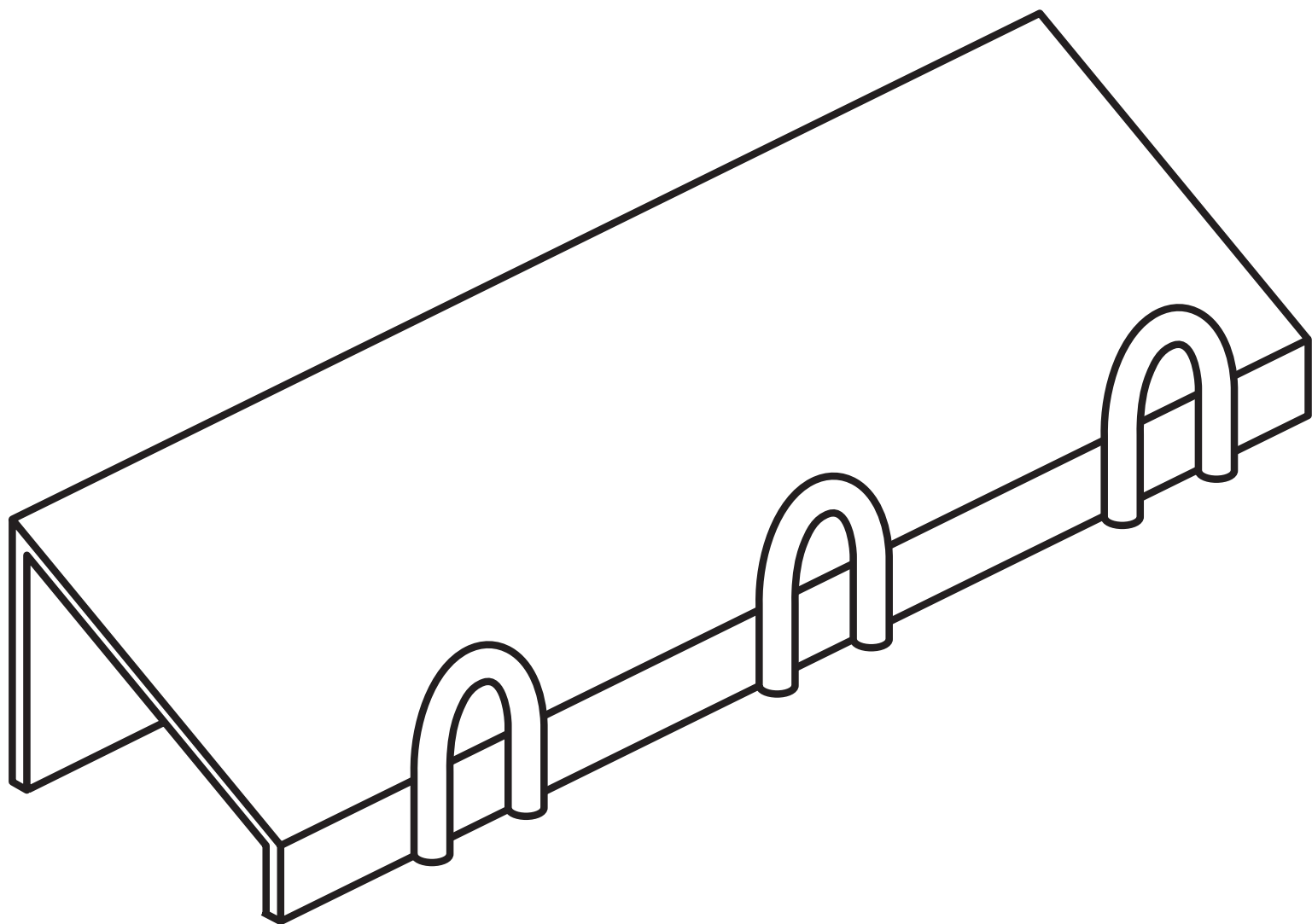
FIGURE 8

Additional information – dimensions of box of chocolates

All dimensions in mm



Question 5(a) – Outline



Question 5(b)

FIGURE 9

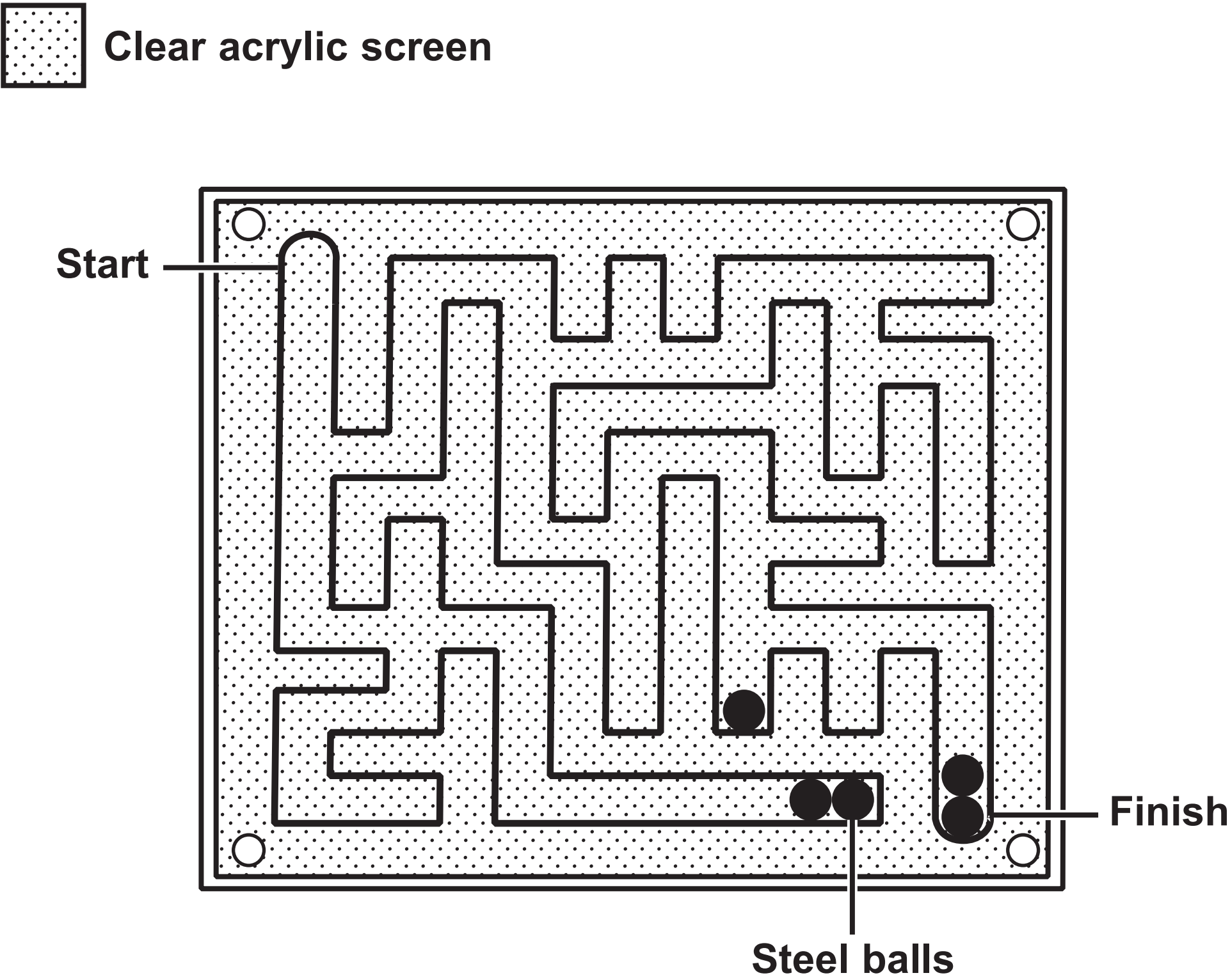
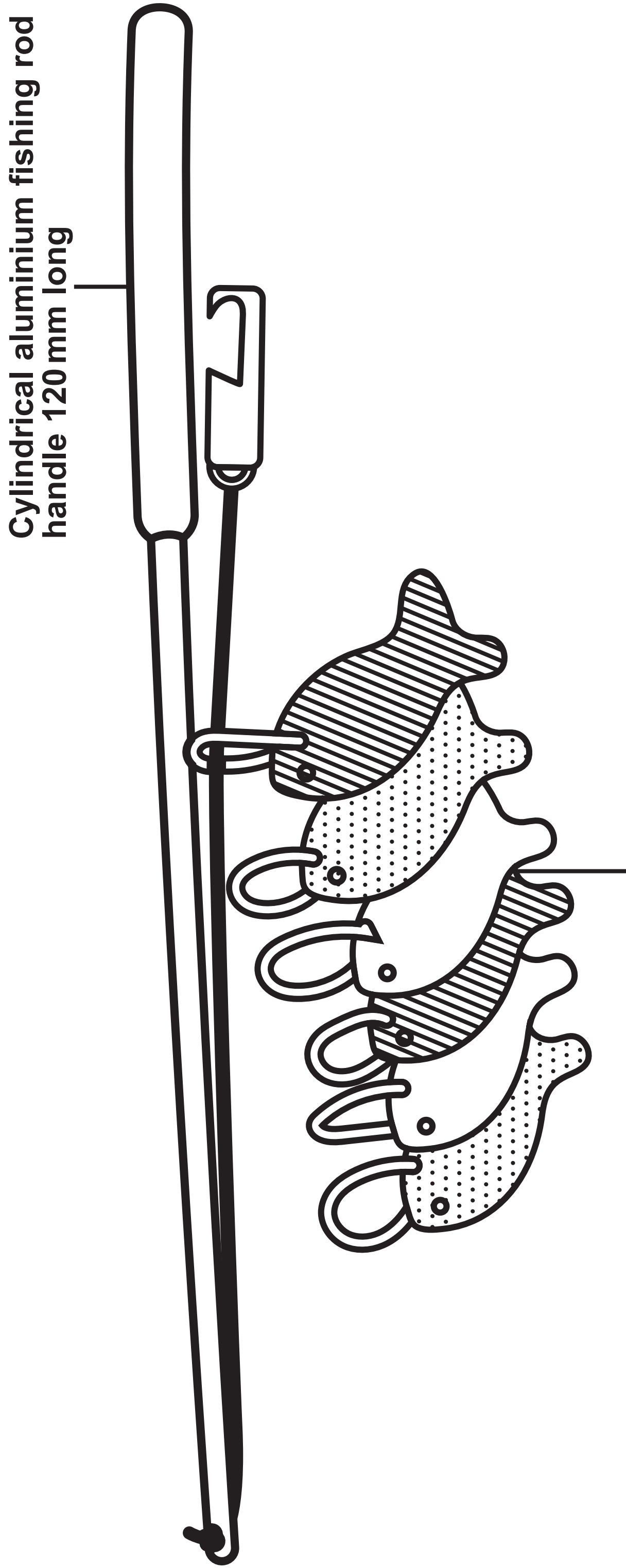


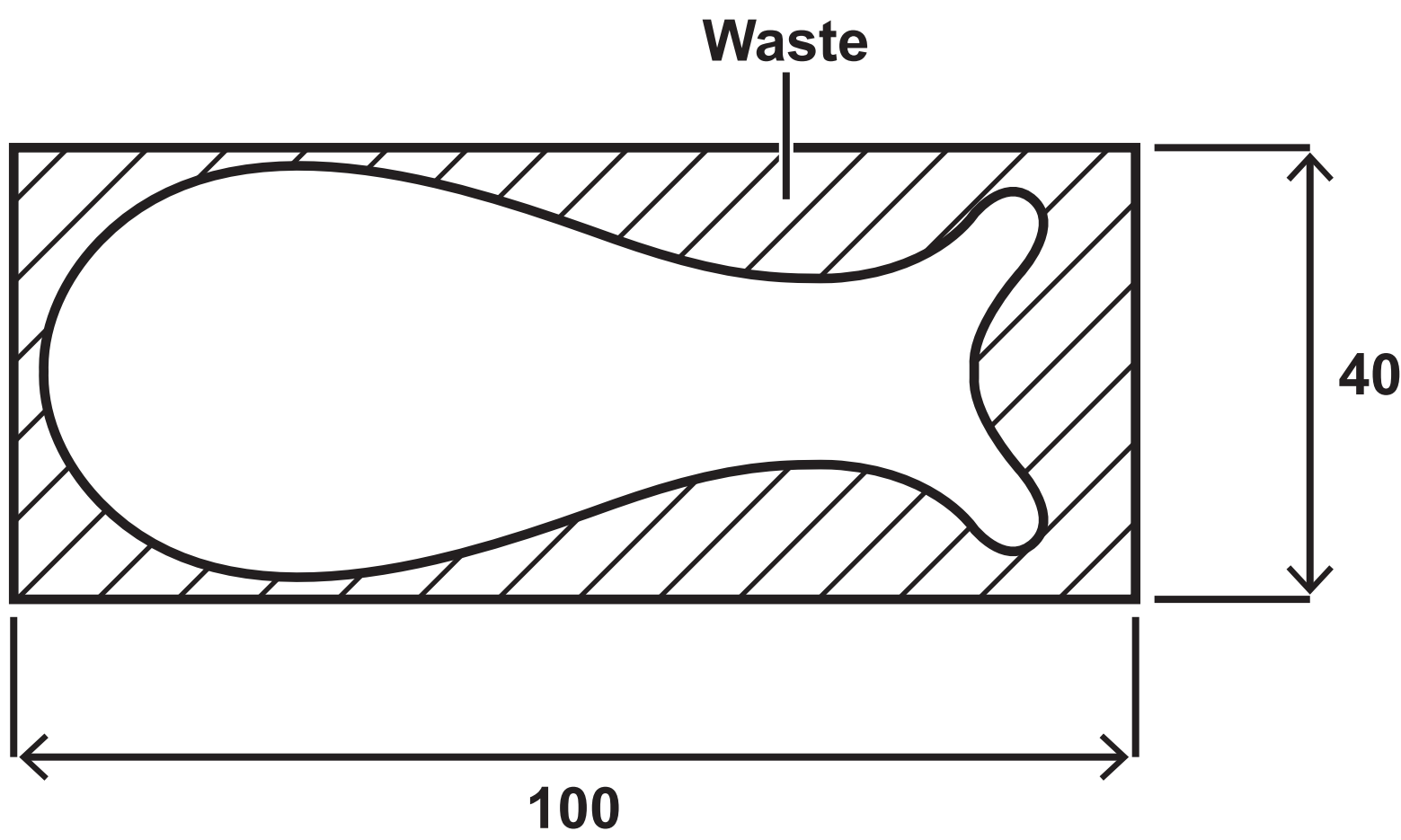
FIGURE 10



Question 6(b)

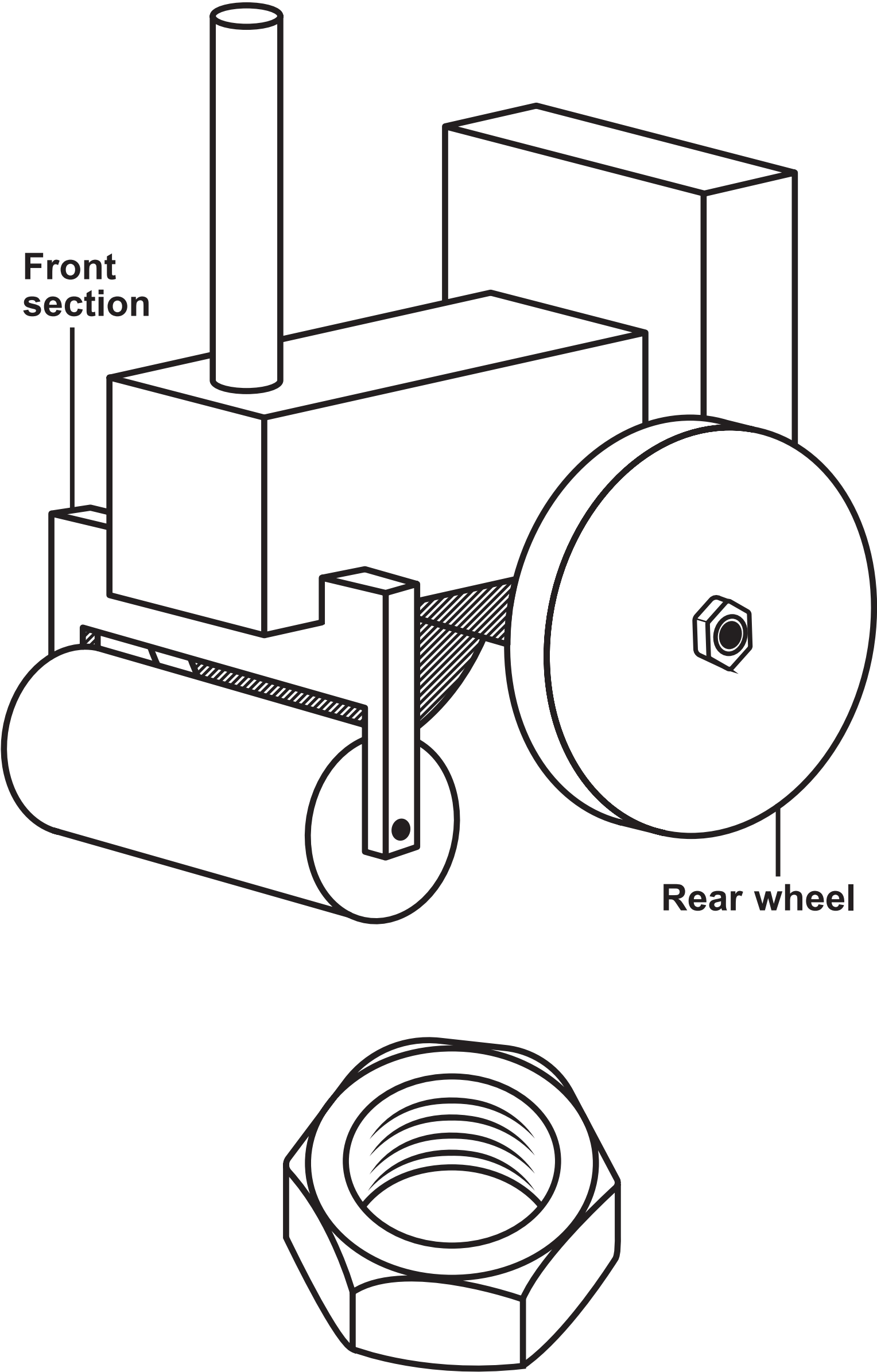
FIGURE 11

All dimensions in mm



Question 7(a)

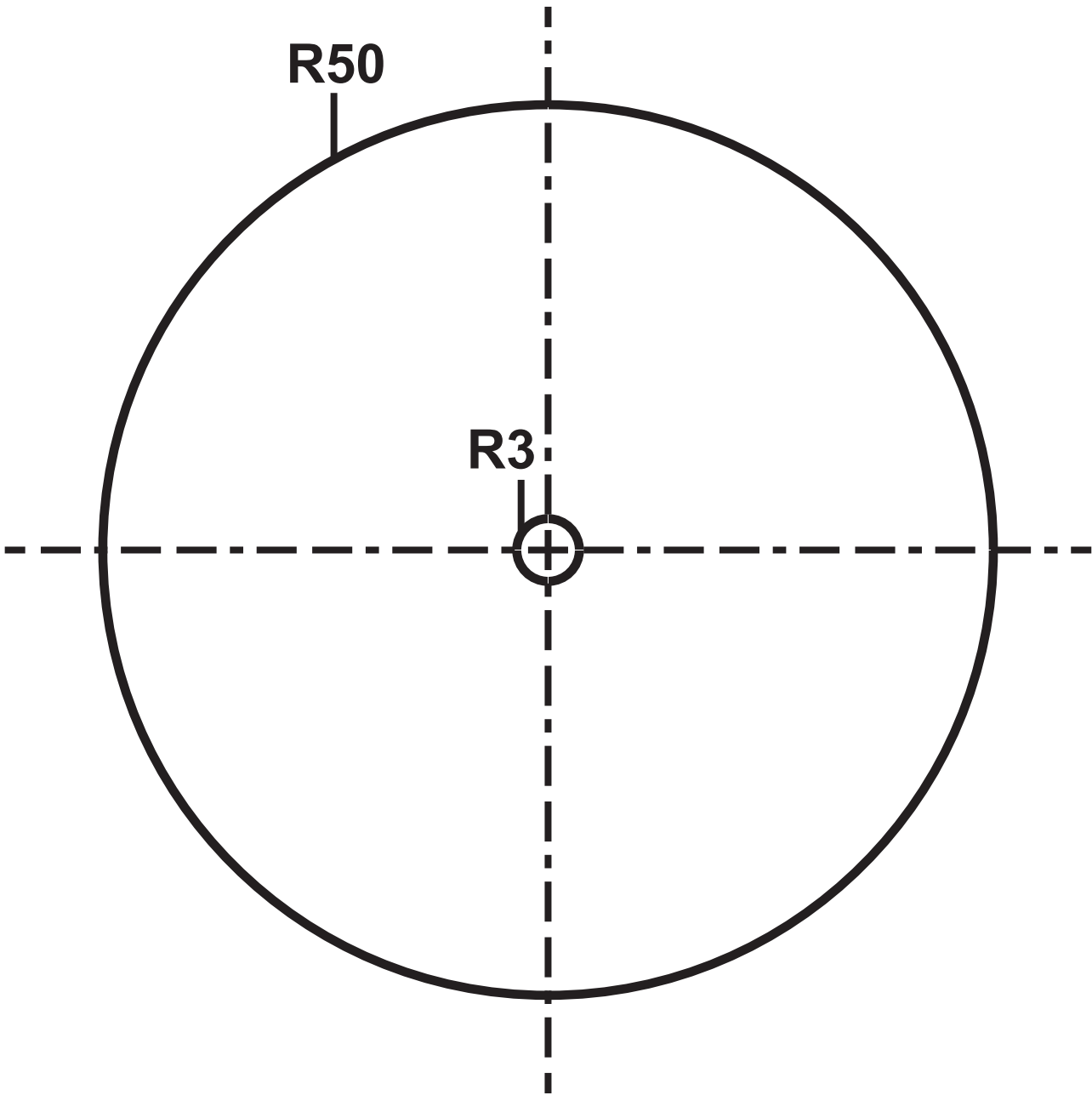
FIGURE 12



Question 7(b)

FIGURE 13

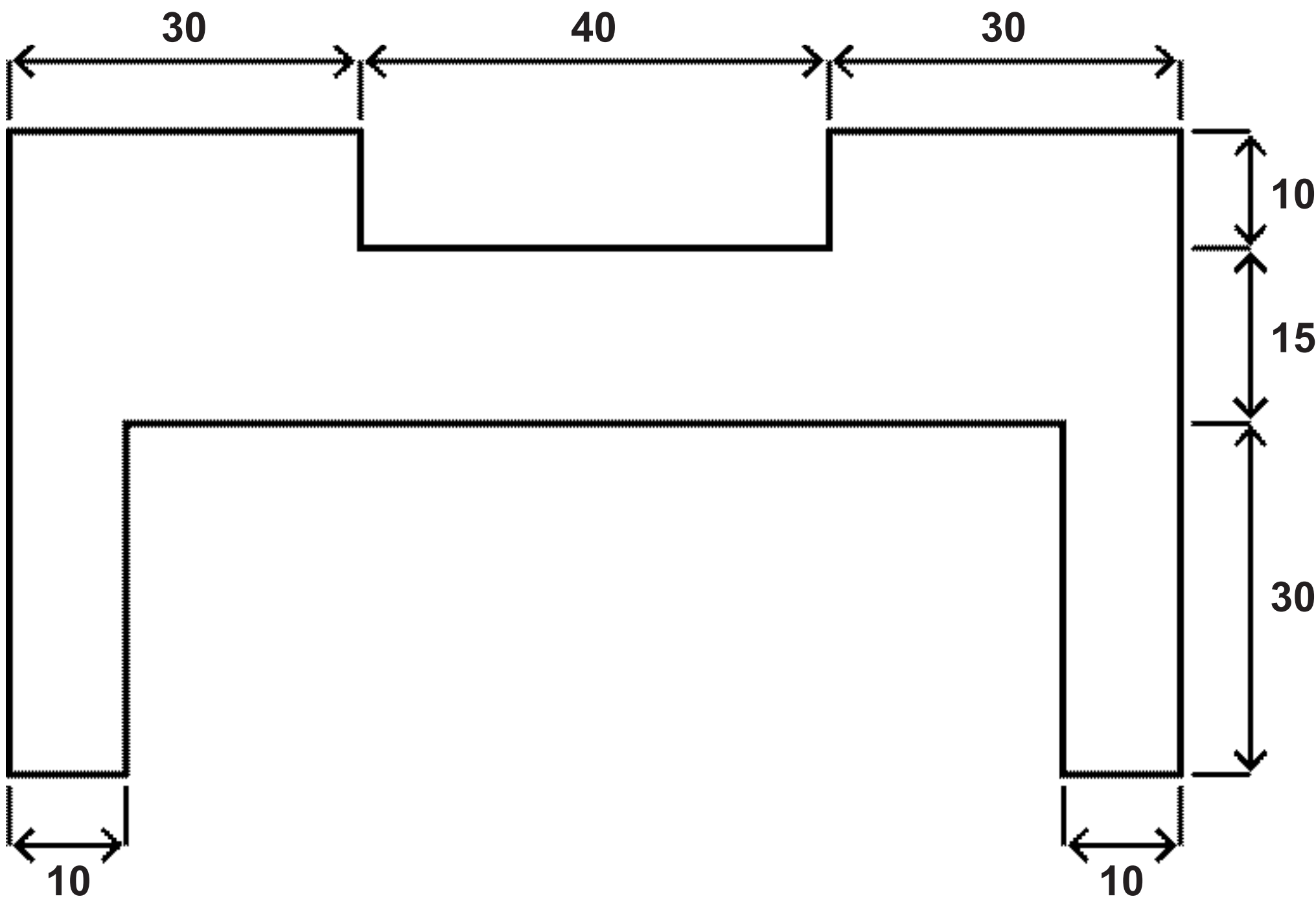
All dimensions in mm



Question 7(c)

FIGURE 14

All dimensions in mm
Diagram not to scale



Isometric grid provided on the next page

Question 7(c) continued.

5mm isometric grid

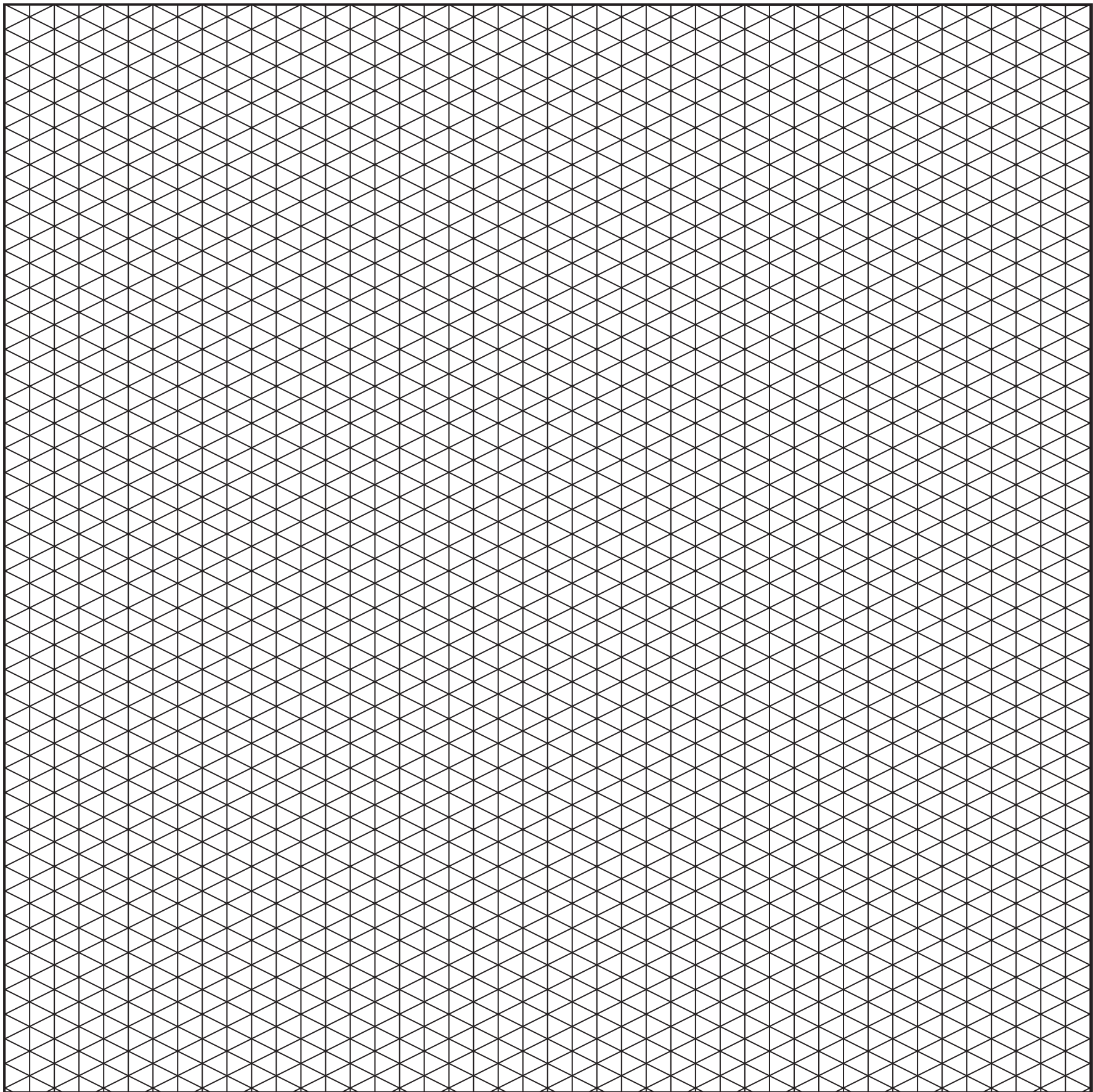
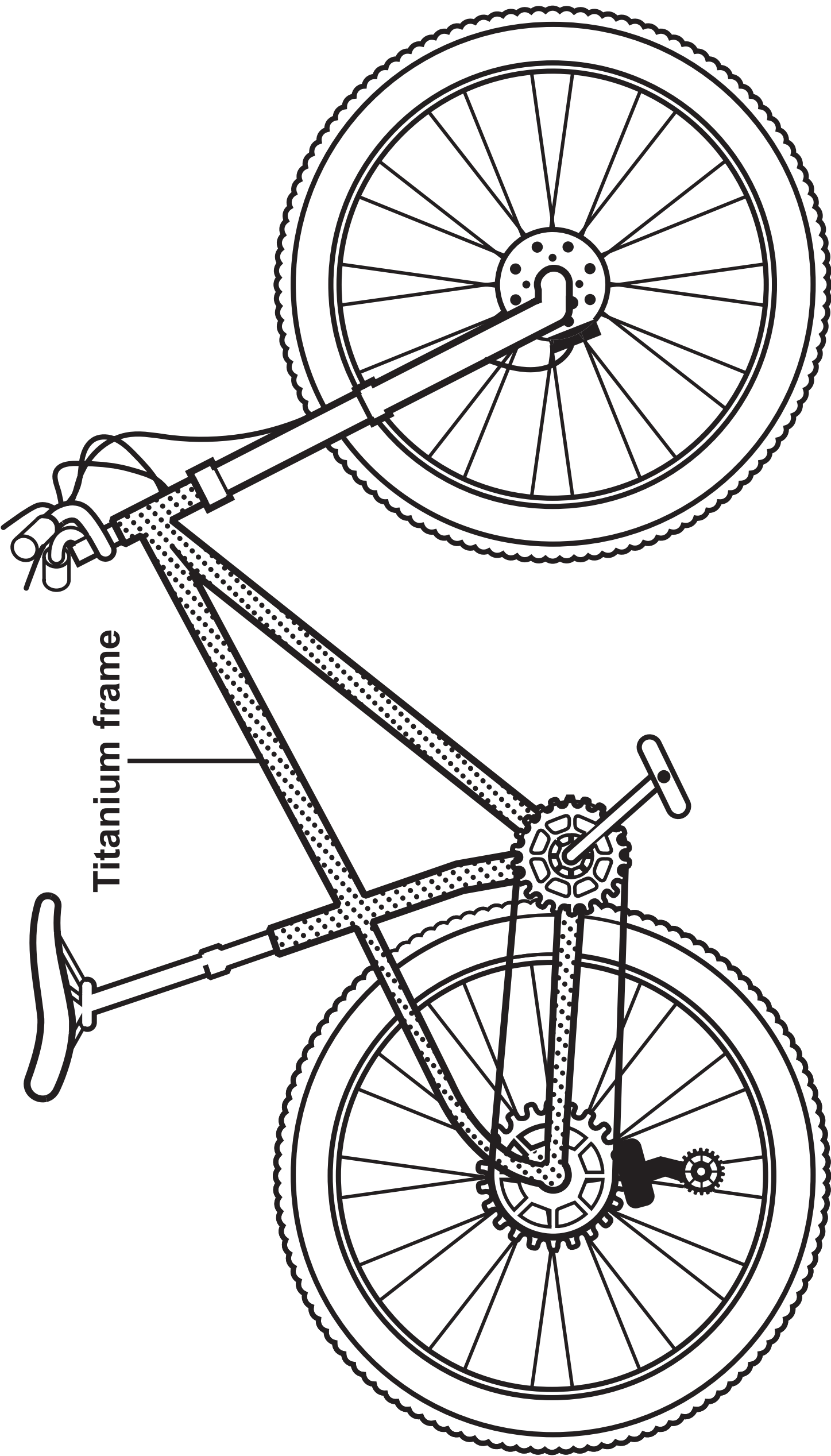


FIGURE 15



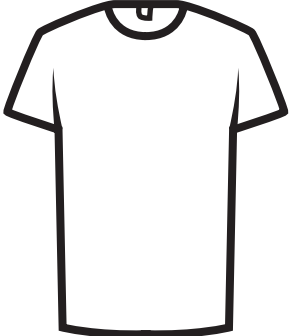
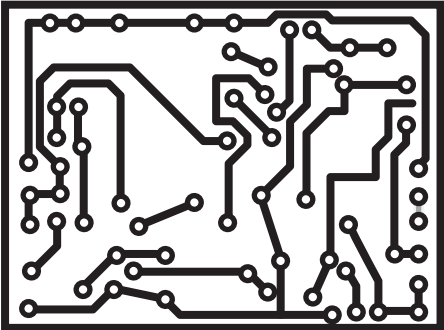
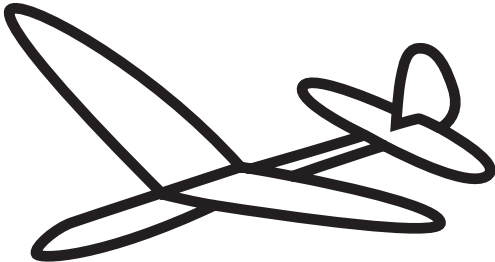

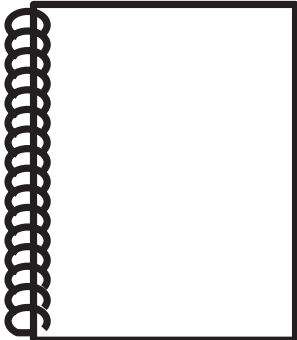
Question 8(d)

FIGURE 16

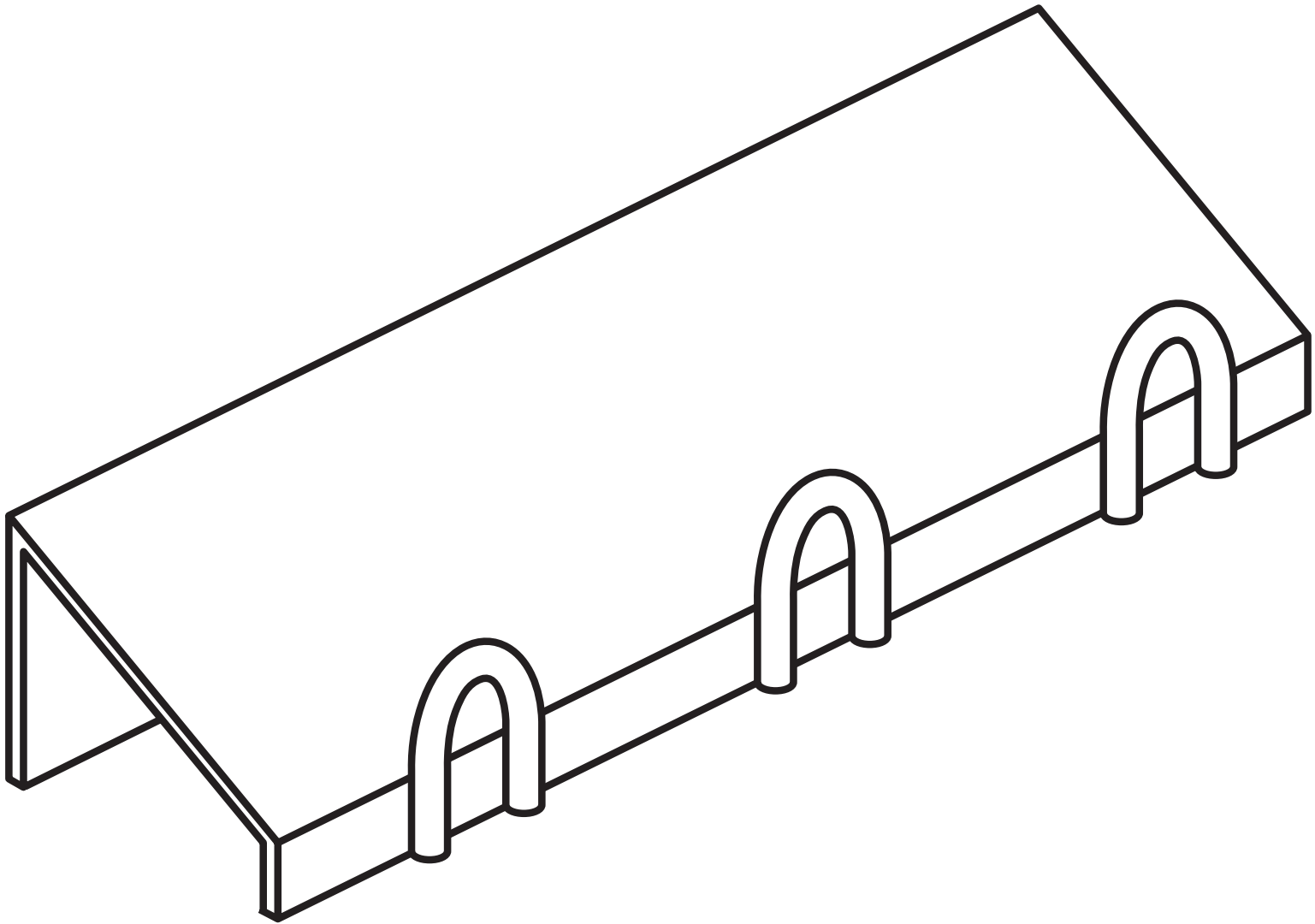
Source of titanium	China
Country of manufacture	United States of America
Potential market	Families, cycle clubs and bike hire shops
Scale of production	Mass

Question 1(a)

FIGURE 1

Picture of product	Material and product	Property
	Cotton T-shirt	Soft
	Polyester resin printed circuit board (PCB)	(i) _____ (1 mark)
	Balsa wood toy plane	(ii) _____ (1 mark)
	Stainless steel kitchen scissors	(iii) _____ (1 mark)
	Solid white board hardback book cover	(iv) _____ (1 mark)

Question 5(a) – Outline



Question 7(c) continued.

5mm isometric grid

