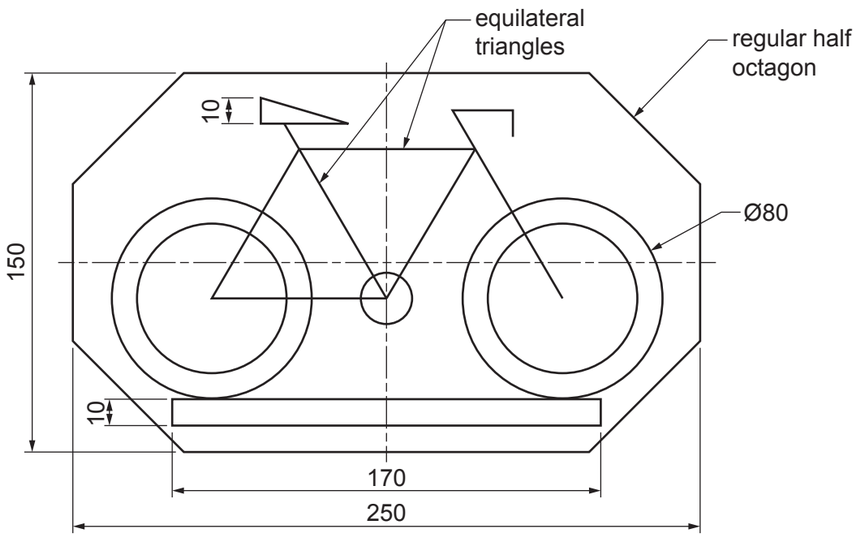
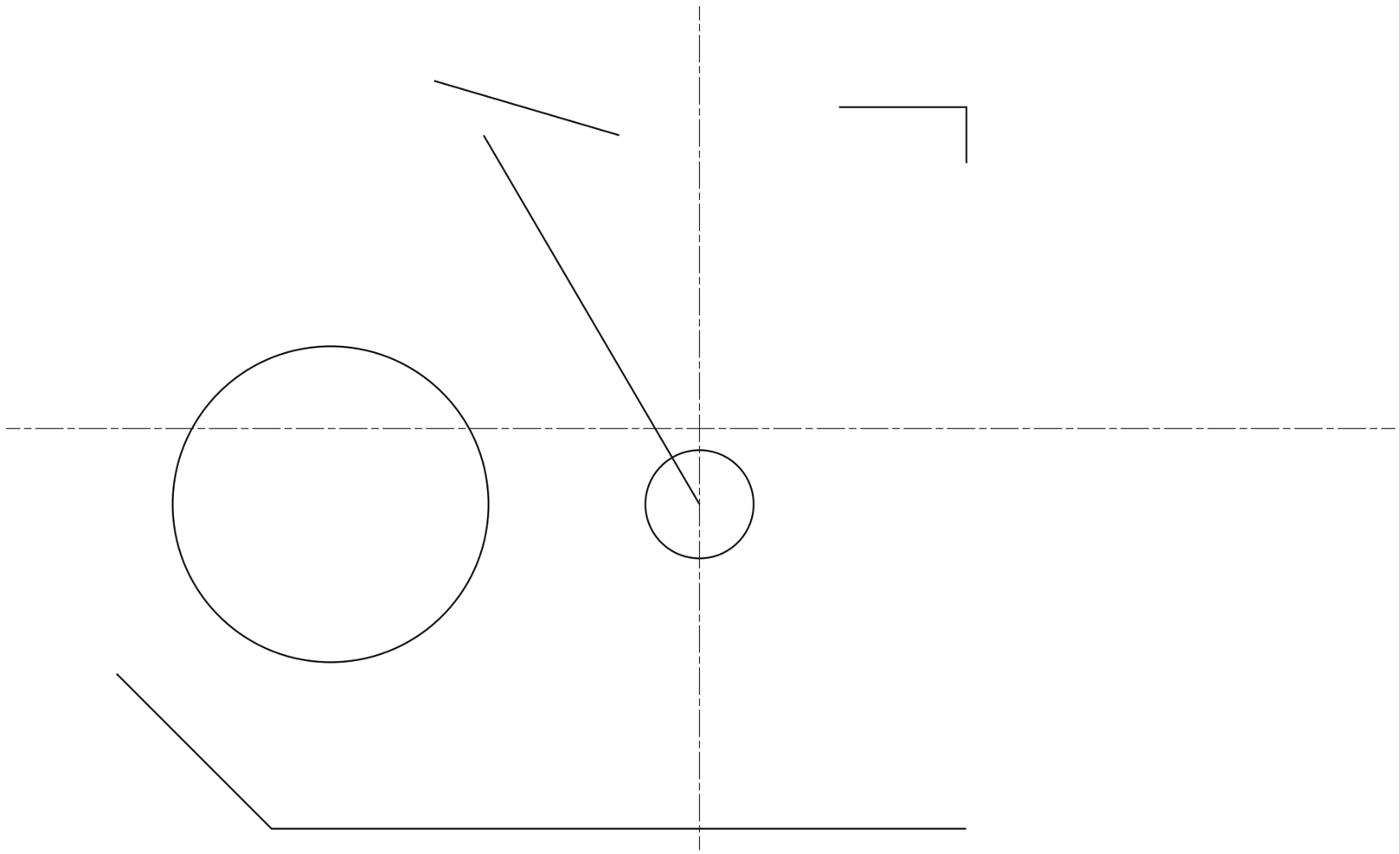
Section A
Answer **all** questions in this section.

A1 A sign for a cycle lane is shown below.



Complete the full-size drawing of the cycle lane sign by adding:

(a) the frame [5]
(b) the wheels [3]
(c) the seat [2]
(d) the rectangle below the cycle [2]
(e) the outline of the sign. [4]



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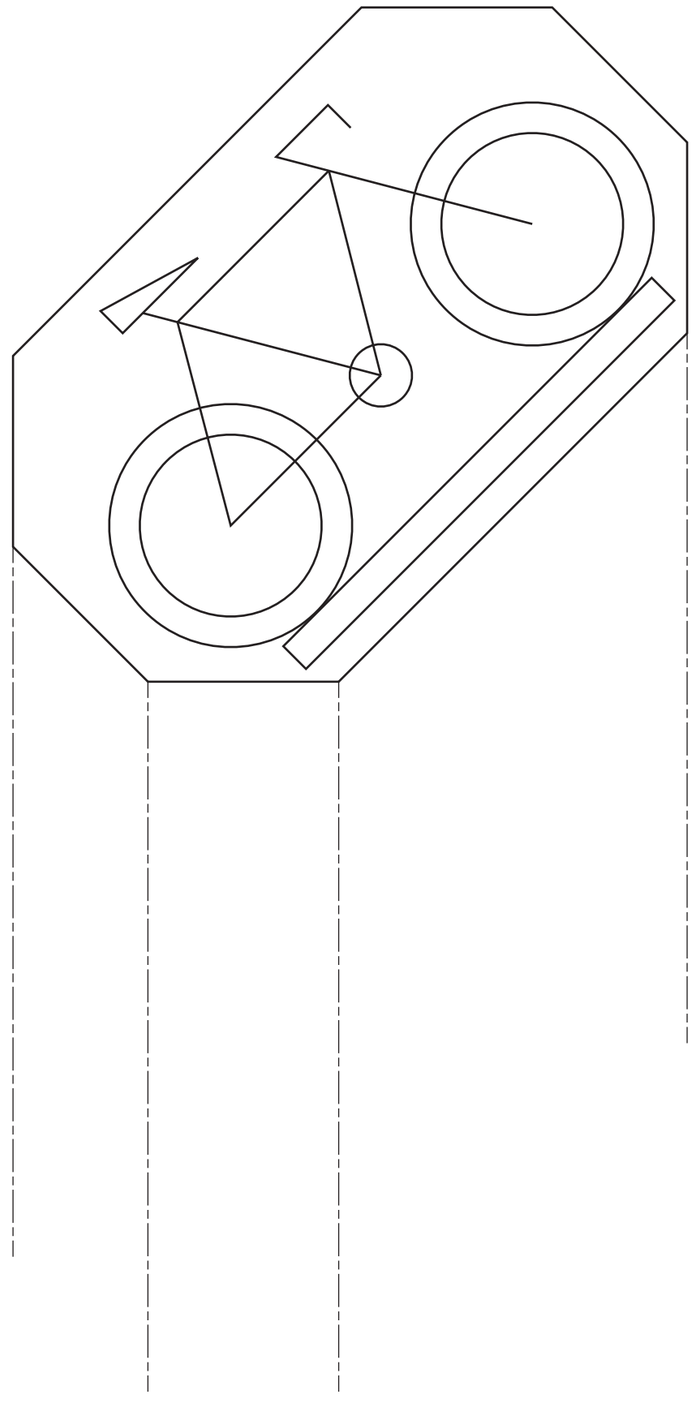
A2 The cycle lane sign will be mounted onto a rectangular-shaped backboard.

The rectangular-shaped backboard measures 250 mm × 150 mm × 20 mm thick.

Complete the exploded planometric view of the cycle lane sign and rectangular-shaped backboard to a scale of 1 : 2. [5]



exploded planometric view

A3 **(a)** The cycle lane sign will be made from a rigid thin plastic sheet.

(i) State **one** suitable rigid thin plastic sheet that could be used to make the cycle lane sign.

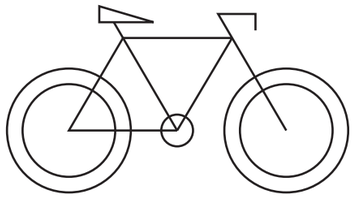
..... [1]

(ii) Name a suitable method of printing the design onto the thin plastic sheet.

..... [1]

(b) Another sign is required to inform people that cycling is not allowed.

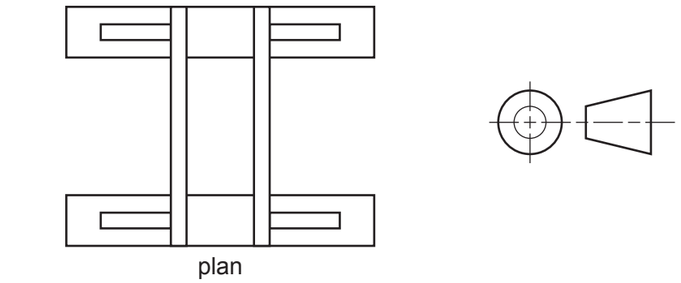
Sketch a modification to the sign below to inform people that cycling is not allowed. [2]

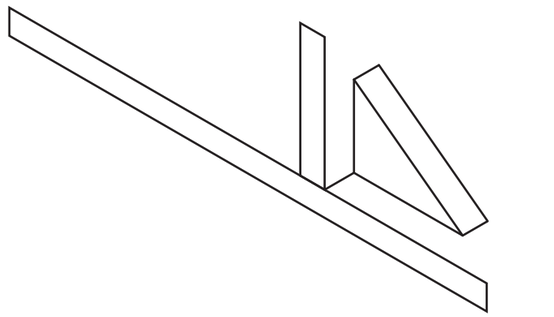


Section B
Answer **one** question, **either** Question **B4** or **B5**, from this section.

B4 Orthographic views of a design for a cycle stand are shown below.

The design is made from 25 mm thick softwood.




isometric view

(a) Complete the isometric view of the cycle stand to a scale of 1 : 5. [13]

(b) A scale model of the cycle stand is to be made from 12.5 mm thick Styrofoam.

(i) State the scale used to make the model.

..... [1]

(ii) Complete the table to show the processes and tools/items of equipment that would be used to make the model of the cycle stand. [3]

Process	Tools/items of equipment
marking out the shapes onto the Styrofoam	marker pen
cutting out the parts	
smoothing the edges of the pieces	
joining the pieces together	

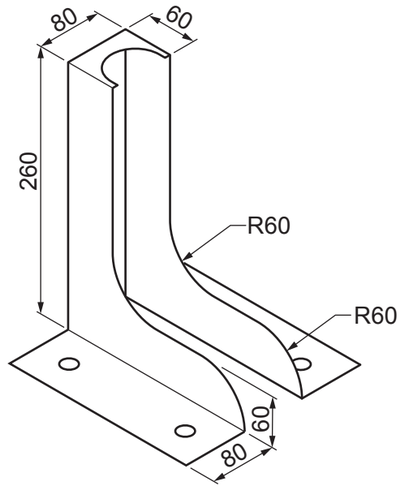
(iii) Explain **one** benefit of making a model of the design.

.....

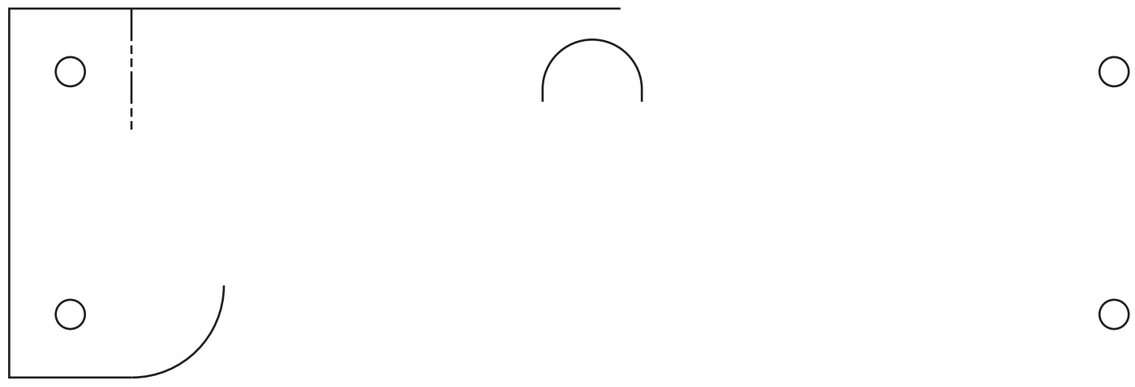
.....

..... [2]

(c) A design for another cycle stand made from thin sheet metal is shown below.



Complete the development (net) of the cycle stand to a scale of 1 : 4. [6]


development (net)

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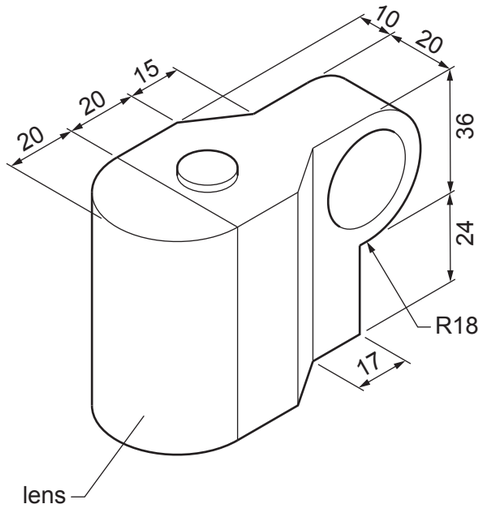
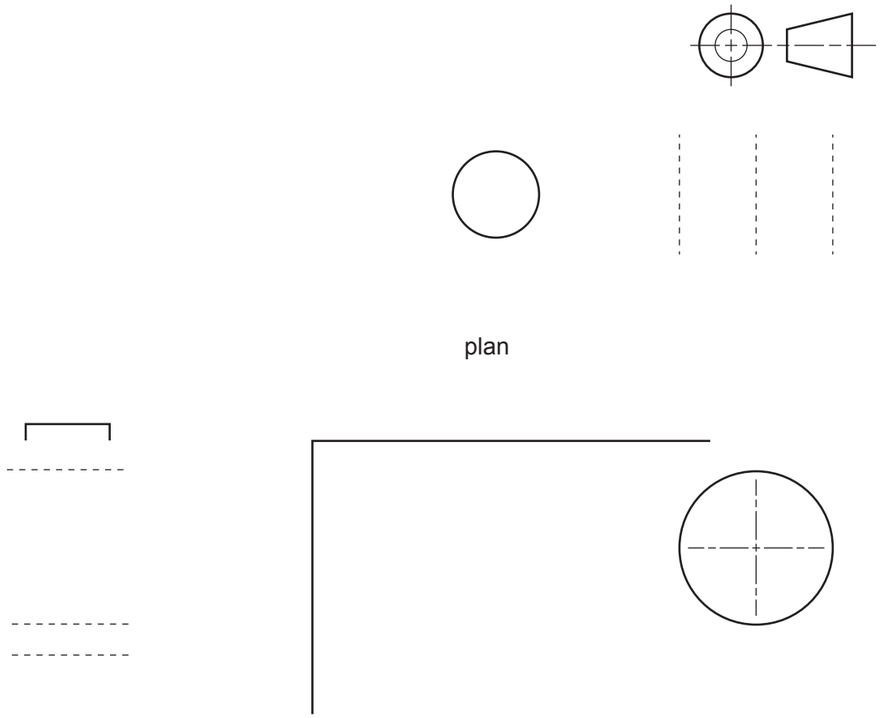
B5 A cycle light is shown below.



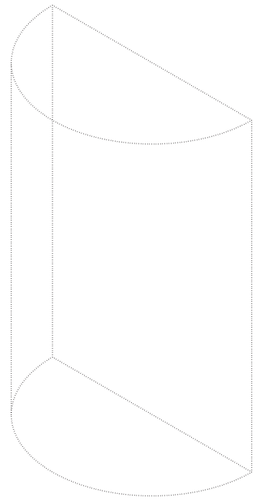
(a) Complete the full-size orthographic views of the cycle light. [11]



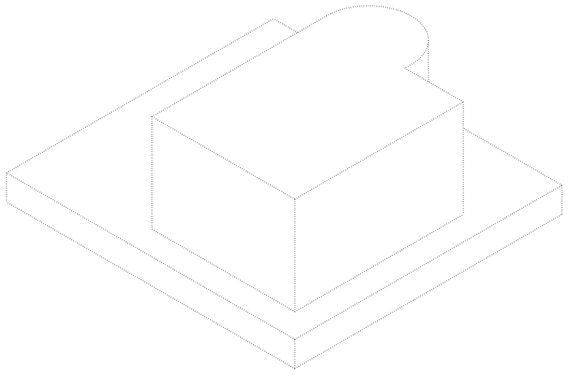
(b) The lens of the cycle light is shown below.

The lens is made from clear plastic.

Render the lens to look like clear plastic. [3]



(c) A vacuum formed package for the cycle light will be made using the mould shown below.



Apply thick and thin line technique to the mould. [5]

(d) Complete the one-point perspective view of the mould. [6]