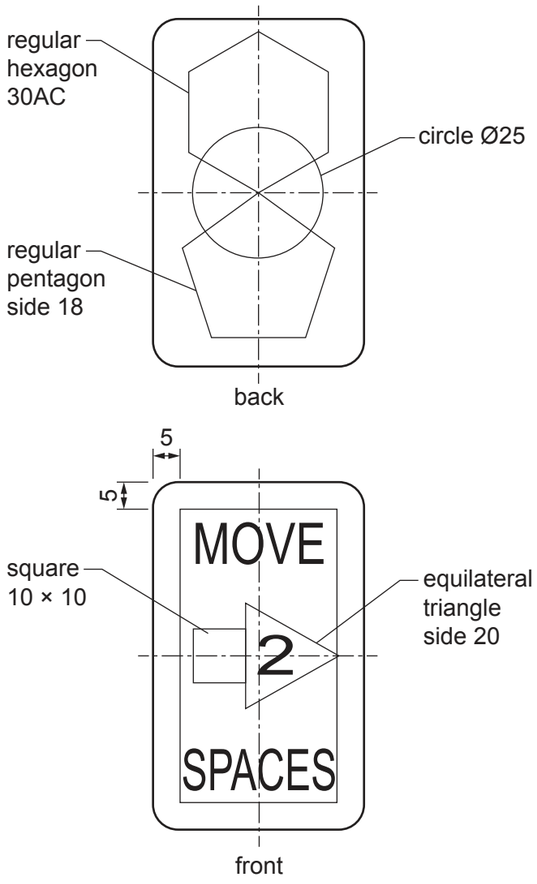
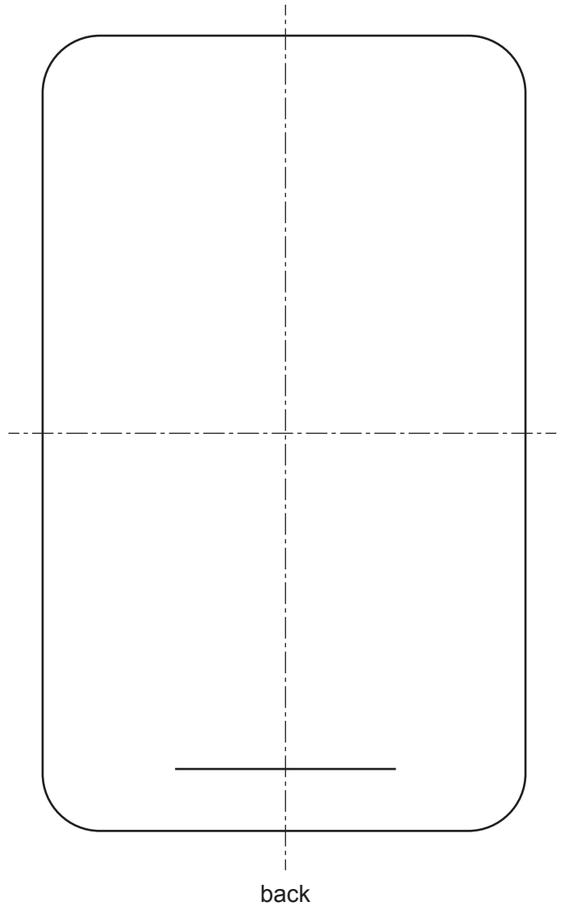
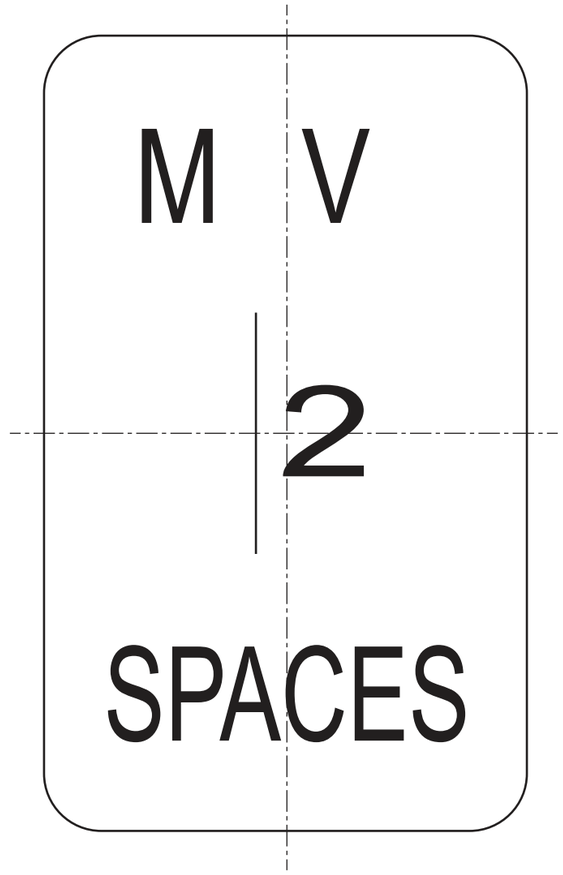
Section A
Answer **all** questions in this section.

A1 The front and back of a card from a board game are shown below.







(a) Complete the drawing of the back of the card to a scale of 2:1 by adding:

(i) the circle [1]
(ii) the hexagon [3]
(iii) the pentagon. [3]

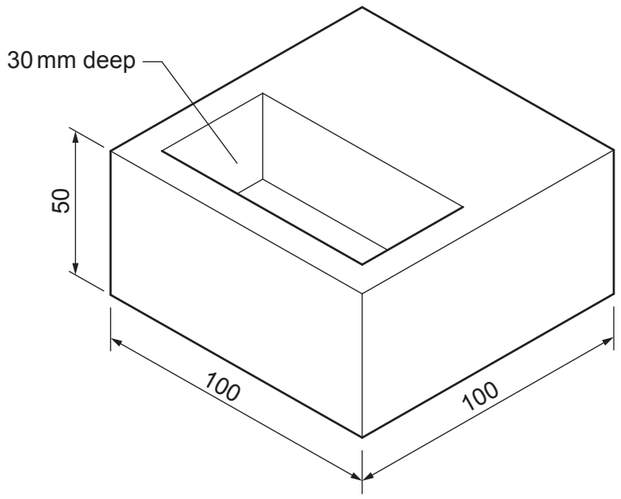
(b) Complete the drawing of the front of the card to a scale of 2:1 by adding:

(i) the rectangular border [1]
(ii) the square [2]
(iii) the equilateral triangle [2]
(iv) the missing letters of MOVE. [2]

For Examiner's use

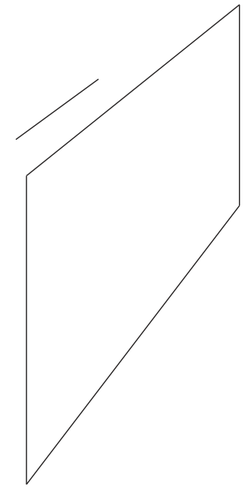
Centre Number ..... Candidate Number ..... Candidate Name ..... **[Turn over**

A2 A holder for the cards from the board game is shown below.



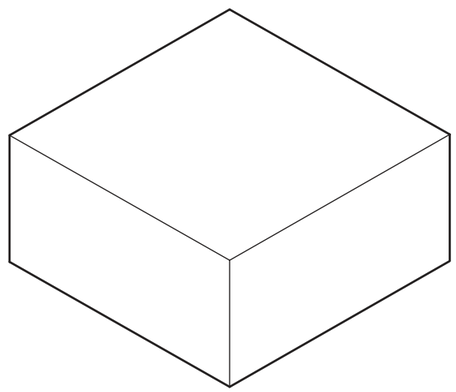
Complete the one-point perspective view of the card holder. [6]

VP



one-point perspective view

A3 The card holder is made from the solid block of softwood shown below.



(a) Render the block to make it look like softwood. [3]

(b) A nameplate made from 5 mm thick acrylic sheet will be glued to the side of the card holder as shown below.

The nameplate will be produced using CAD/CAM.

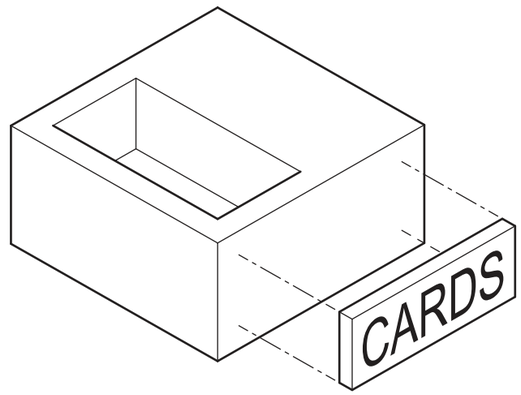
(i) Name **one** piece of CAM equipment that could be used to create the lettering and cut out the shape in 5 mm acrylic.

..... [1]

(ii) State **one** way the lettering could be altered on screen using CAD.

.....

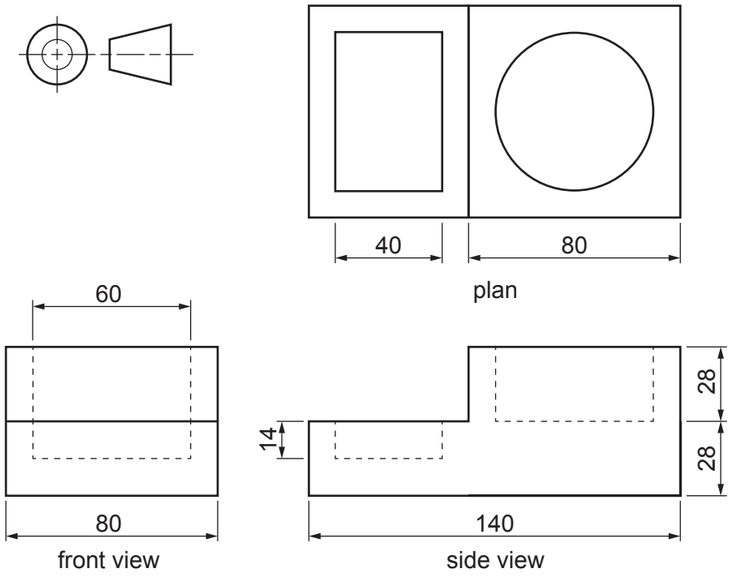
..... [1]

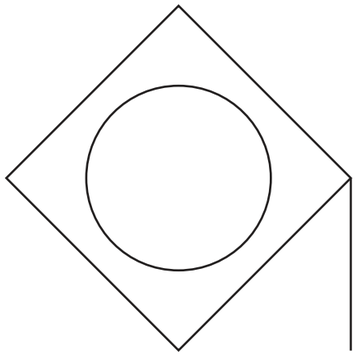


Section B

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

B4 Orthographic views of a design for a container to hold the games pieces are shown below.





planometric

(a) Complete the planometric view of the container to a scale of 1:2. [12]

(b) The container will be made from four blocks of 14 mm thick Styrofoam.

The four blocks will be glued together in layers.

(i) Complete the table below to show **one** tool or item of equipment for each stage of the making process. [3]

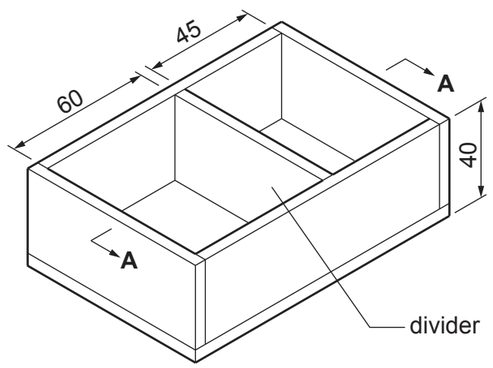
Process	Tool/item of equipment
Marking out the shape onto the Styrofoam	Marker pen
Cutting the blocks to size	
Smoothing the edges	
Joining the layers of Styrofoam together	

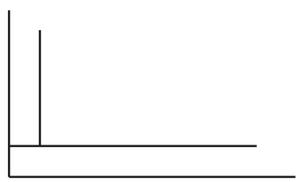
(ii) State **one** property of Styrofoam that makes it suitable for the container.

..... [1]

(c) An alternative design for a container to hold the games pieces is shown below.

The container is made from 5 mm foamboard and has a central divider.





sectional view **A-A**

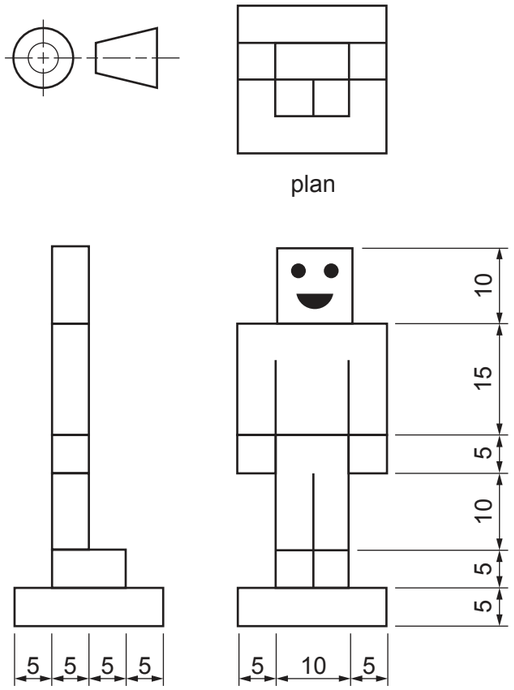
(i) Complete the full-size sectional view **A-A** through the container. [6]

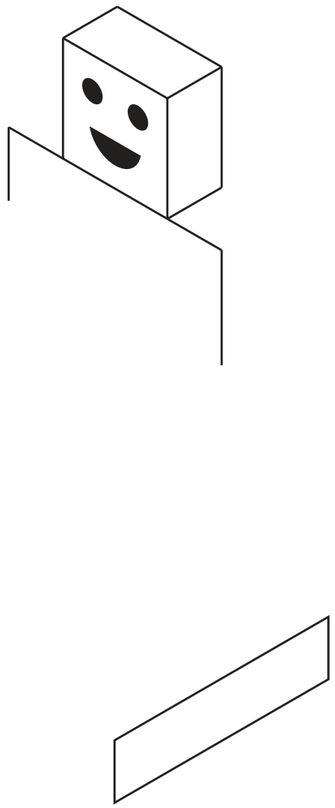
(ii) Sketch a modification to the design that will allow the divider to be easily removed and replaced when required. [3]

For Examiner's use

Centre Number ..... Candidate Number ..... Candidate Name ..... **[Turn over**

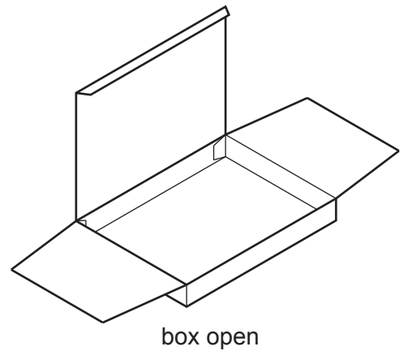
B5 Orthographic views of a figure for the board game are shown below.

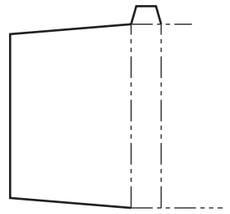


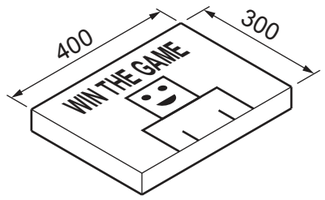

isometric view

(a) Complete the isometric view of the figure to a scale of 2:1. [12]

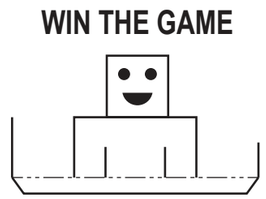
(b) A box for the board game is shown below.


box open





box closed



(i) Complete the development (net) of the box to a scale of 1:10. [7]

(ii) The box is to be manufactured in quantities of 5000.

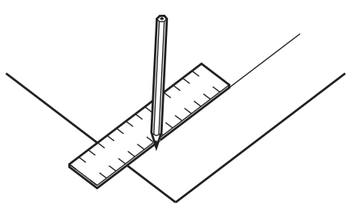
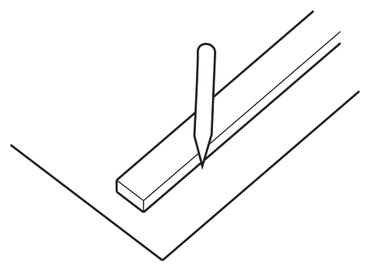
Name **one** suitable method of cutting out the developments (nets) of the box.

..... [1]

(c) A prototype of the box will be made by hand before it is mass produced.

Complete the sequence for making the box by adding sketches to show how to:

(i) cut out the development (net) [2]
(ii) glue the box together. [2]

Mark out the development (net) onto card	Cut out the development (net)	Score and crease the fold lines	Glue the box together
			

(d) The symbol shown below will be printed onto the box.

State the meaning of the symbol.

.....

..... [1]