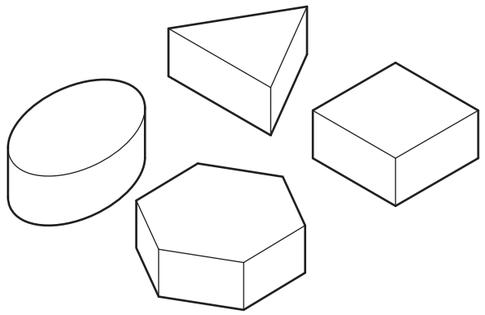
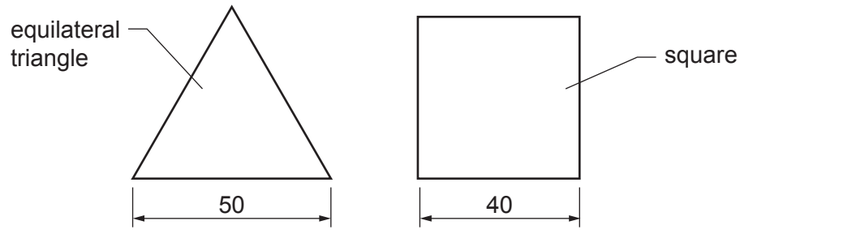
Section A
Answer **all** questions in this section.

A1 Four wooden blocks are shown below.

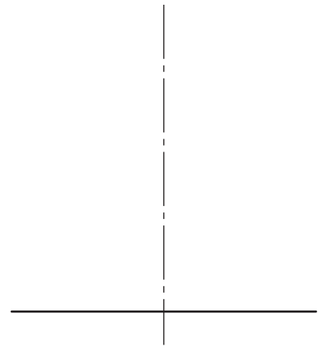


The sizes and shapes of the blocks are shown below.

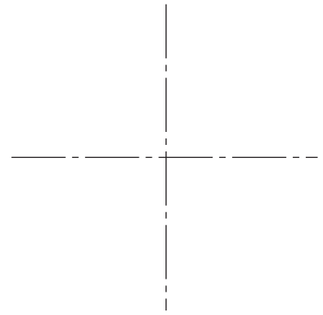


Complete the full-size drawing of the wooden blocks in the space provided to the right by adding:

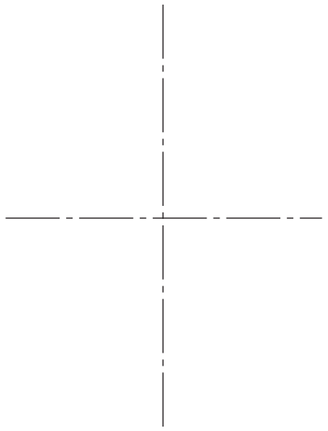
(a) the equilateral triangle [2]
(b) the square [2]
(c) the ellipse [6]
(d) the hexagon. [3]



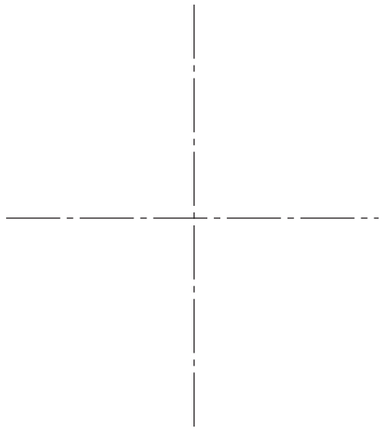
equilateral triangle



square



ellipse



hexagon

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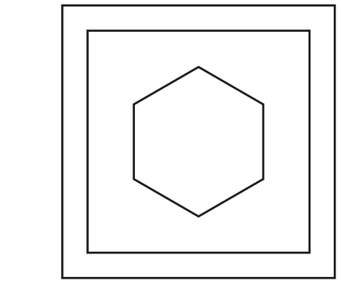
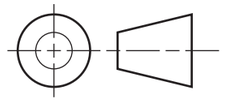
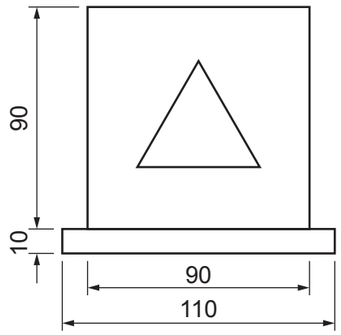
A2 The wooden blocks will be used with a shape sorter toy.

Orthographic views of the shape sorter toy are shown below.

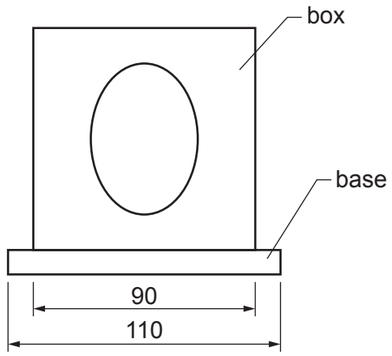


plan





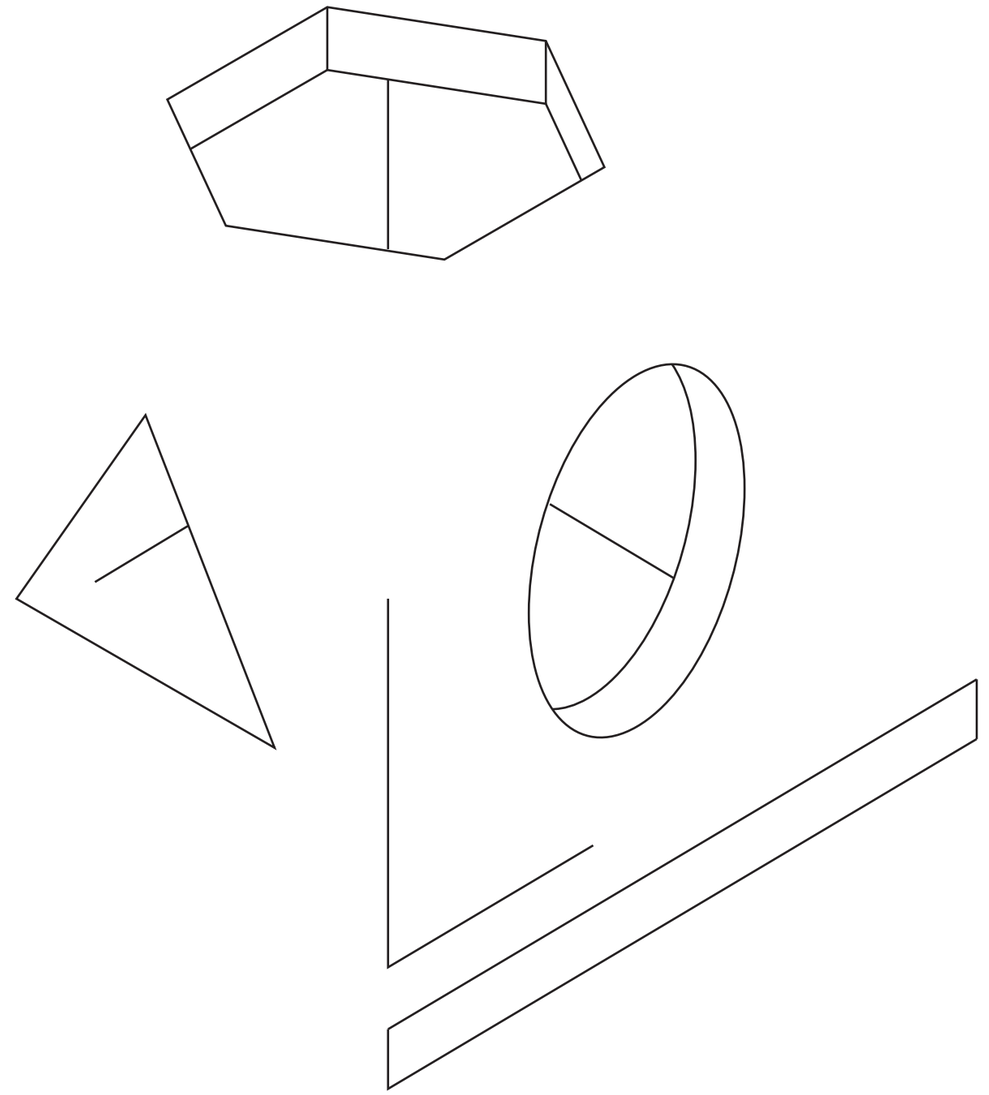
front view



side view

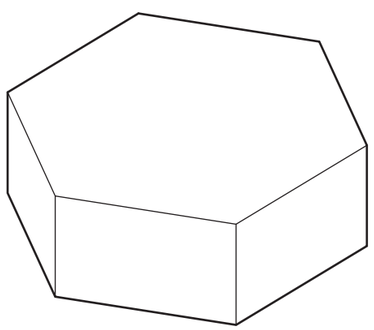
Complete the full-size isometric view of the shape sorter toy by adding:

(a) the box [3]
(b) the base [3]
(c) the triangular hole thickness. [3]



isometric view

A3 The hexagonal wood block is shown below. The block is to be painted in a bright primary colour.

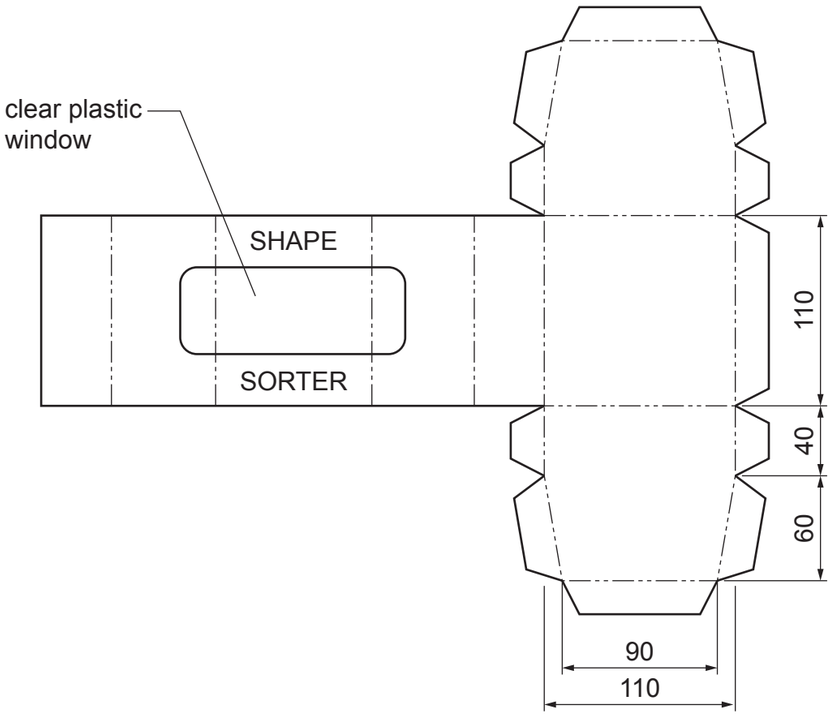


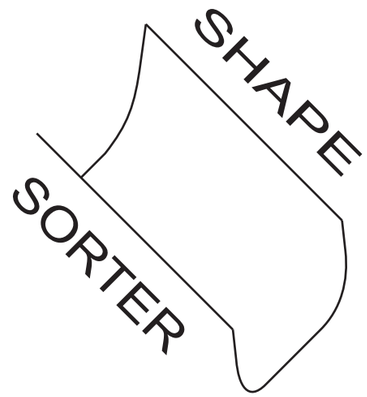
Render the wooden block in a suitable colour. [3]

Section B

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

B4 A development (net) of a card package for the shape sorter toy is shown below.





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

planometric view

(b) The card package has a clear window made from thin plastic sheet.

(i) Name **one** suitable plastic for the clear window.

..... [1]

(ii) Name **one** suitable adhesive that could be used to fix the clear plastic window to the card package.

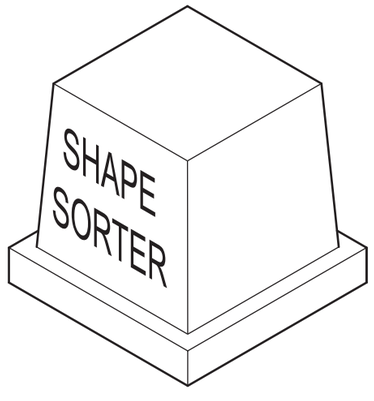
..... [1]

(iii) Show a suitable method of attaching the clear plastic window to the card package. [3]

(c) The lettering on the card package needs to appeal more to young children.

Sketch a design for a lettering style for the word SHAPE that will appeal more to young children. [2]

(d) An alternative package for the shape sorter toy is shown below.



Complete the one-point perspective view of the alternative package. [6]

VP

SHAPE

SORTER

one-point perspective view

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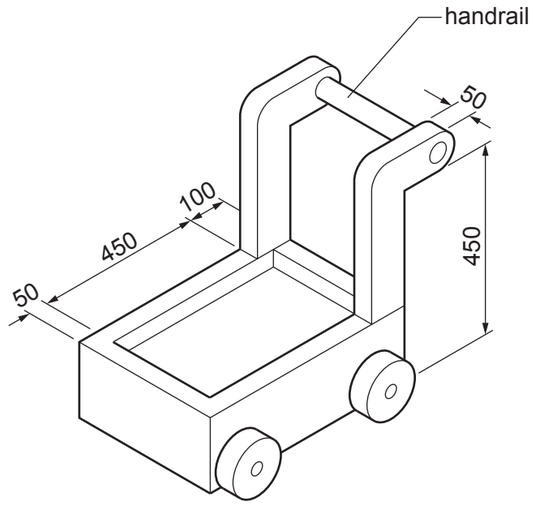
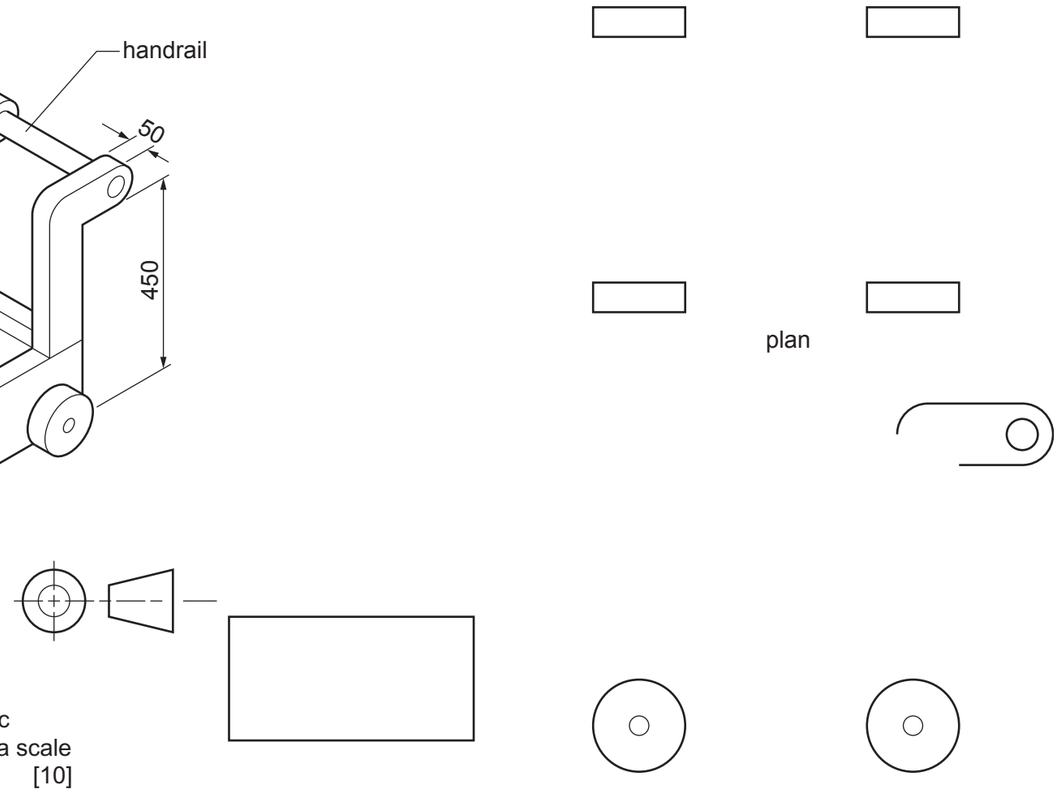
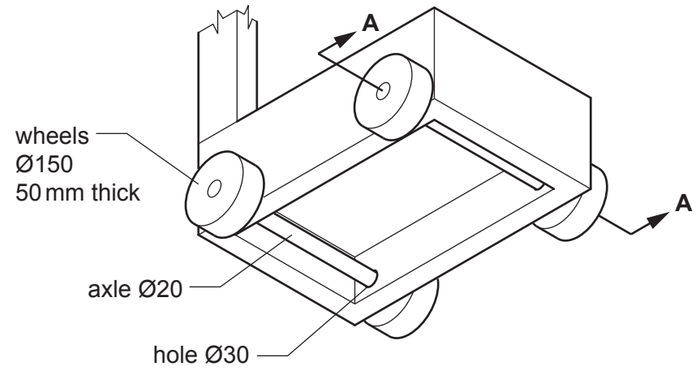
B5 A toy trolley is shown below.



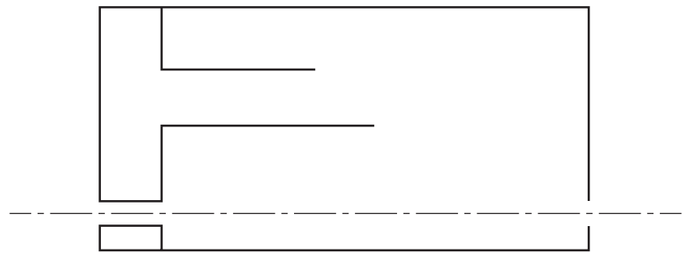
(a) Complete the orthographic views of the toy trolley to a scale of 1:10. [10]



(b) The wheels are attached to the toy trolley as shown below.



Complete the sectional view **A-A** through the axle of the toy trolley to a scale of 1:5. [6]



sectional view **A-A**

(c) An image of a teddy bear is to be added to the front of the toy trolley.

(i) Describe how a computer could be used to source and capture a teddy bear image.

.....

.....

..... [2]

(ii) The image will need to be altered to fit in the space on the front of the toy trolley.

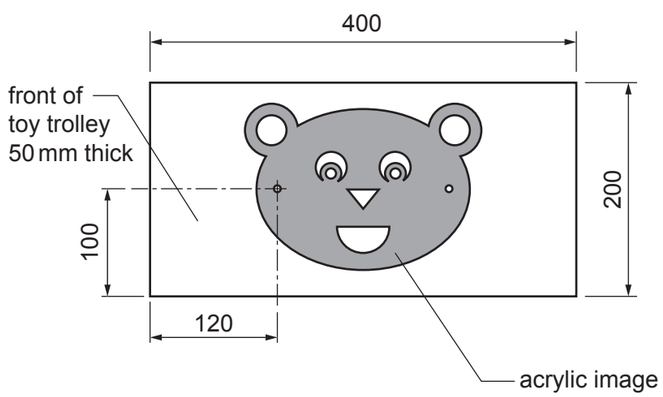
State **two** ways that the image could be altered onscreen using a computer.

1 .....

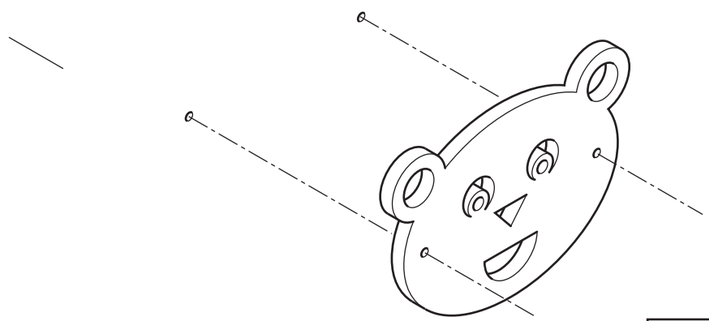
2 .....

[2]

(d) The image of the teddy bear is to be cut out from 10 mm thick acrylic sheet and added to the front of the toy trolley as shown below.



Complete the exploded isometric view, to a scale of 1:5, by adding the front of the toy trolley. [5]



exploded isometric view