



Coimisiún na Scrúduithe Stáit

State Examinations Commission

Leaving Certificate Examination, 2026

Design & Communication Graphics

Ordinary Level

Section B and Section C (180 marks)

Thursday, 18 June

Morning, 9:30 - 12:30

This examination has three sections:

Section A	Core - Short Questions
Section B	Core - Long Questions
Section C	Applied Graphics - Long Questions

Section B

- Three questions are presented.
- Answer **any two** questions on drawing paper.
- All questions in Section B carry **60 marks** each.

Section C

- Five questions are presented.
- Answer **one** question (i.e. the option you have studied) on drawing paper.
- All questions in Section C carry **60 marks** each.

General Instructions:

- Construction lines must be shown on all solutions.
- The graphics presented are not necessarily drawn to scale and must not be used for scaling purposes.
- Write the question number distinctly on the answer paper in Section B and Section C.
- Work on one side of the drawing paper only.
- All dimensions are given in metres or millimetres.
- Write your Examination number in the box provided in Section A and on all other sheets used.

Do not hand this up.

This document will not be returned to the
State Examinations Commission.

Section B - Core

Answer **any two** questions from this section on drawing paper.

B-1. The image on the right shows a card terminal machine.

Fig. B-1 below shows an isometric view of a similar card machine. A 3D graphic is also given.

- (a) Draw an elevation of the card machine looking in the direction of the arrow.
- (b) Project a plan from the elevation.
- (c) Draw the auxiliary elevation of the **card machine**, projected from the plan, which will include the true shape of surface **A**.



Scale 1:1

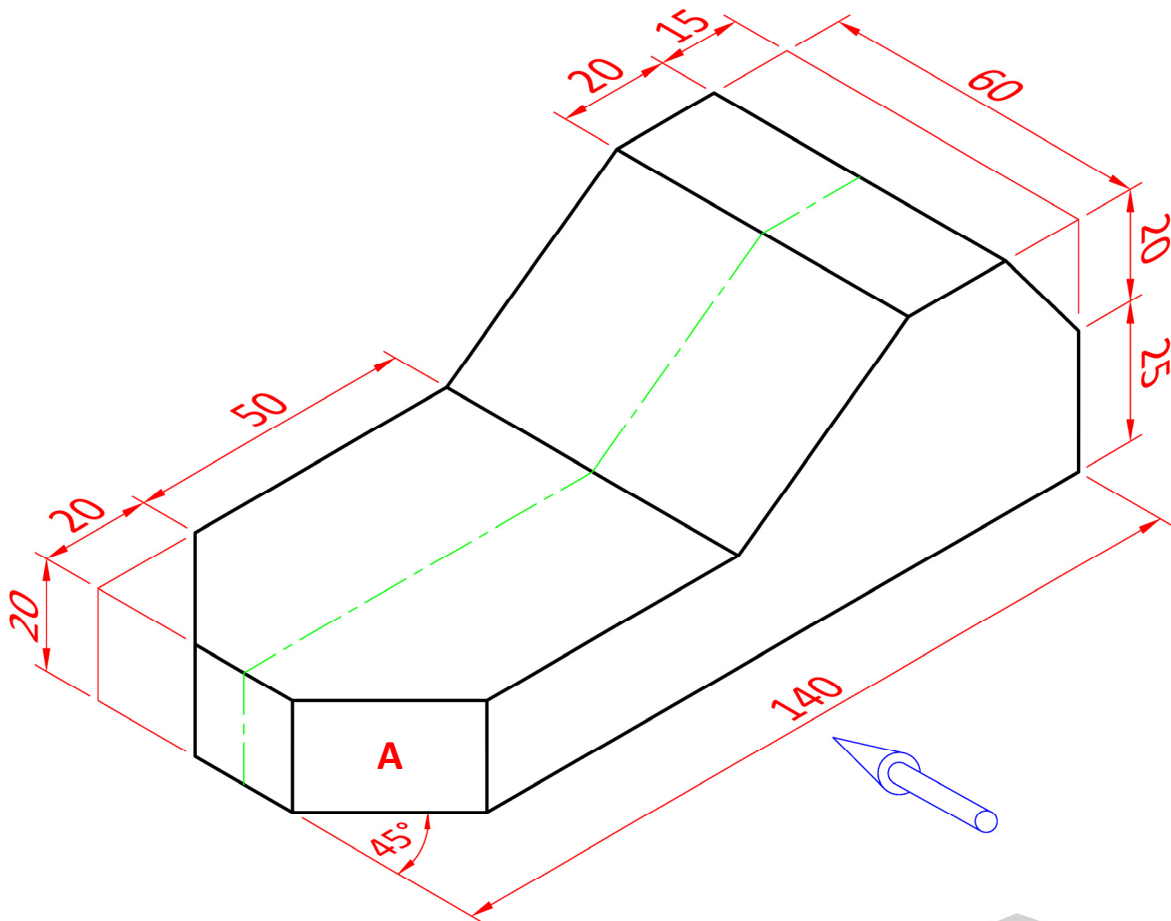


Fig. B-1



B-2. The image on the right shows a greenhouse.

Fig. B-2 below shows an incomplete isometric projection of a similar greenhouse. A 3D graphic is also given.

The elevation and plan of the greenhouse are shown in their required positions.

- Draw the given equilateral triangle **abc** and the axonometric axes **X**, **Y**, and **Z**.
- Draw the elevation and plan positioned as shown.
- Draw the axonometric projection of the outline of the greenhouse to include the semi-circular top.
- Complete the axonometric projection of the opening in the greenhouse.

Scale 1:1

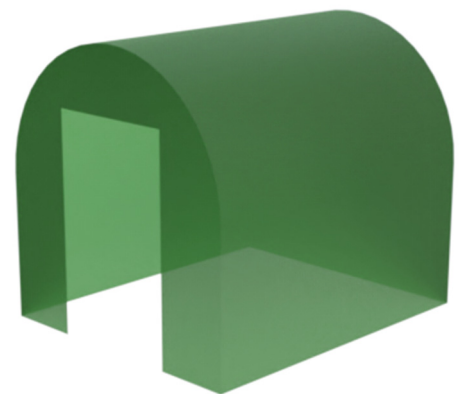
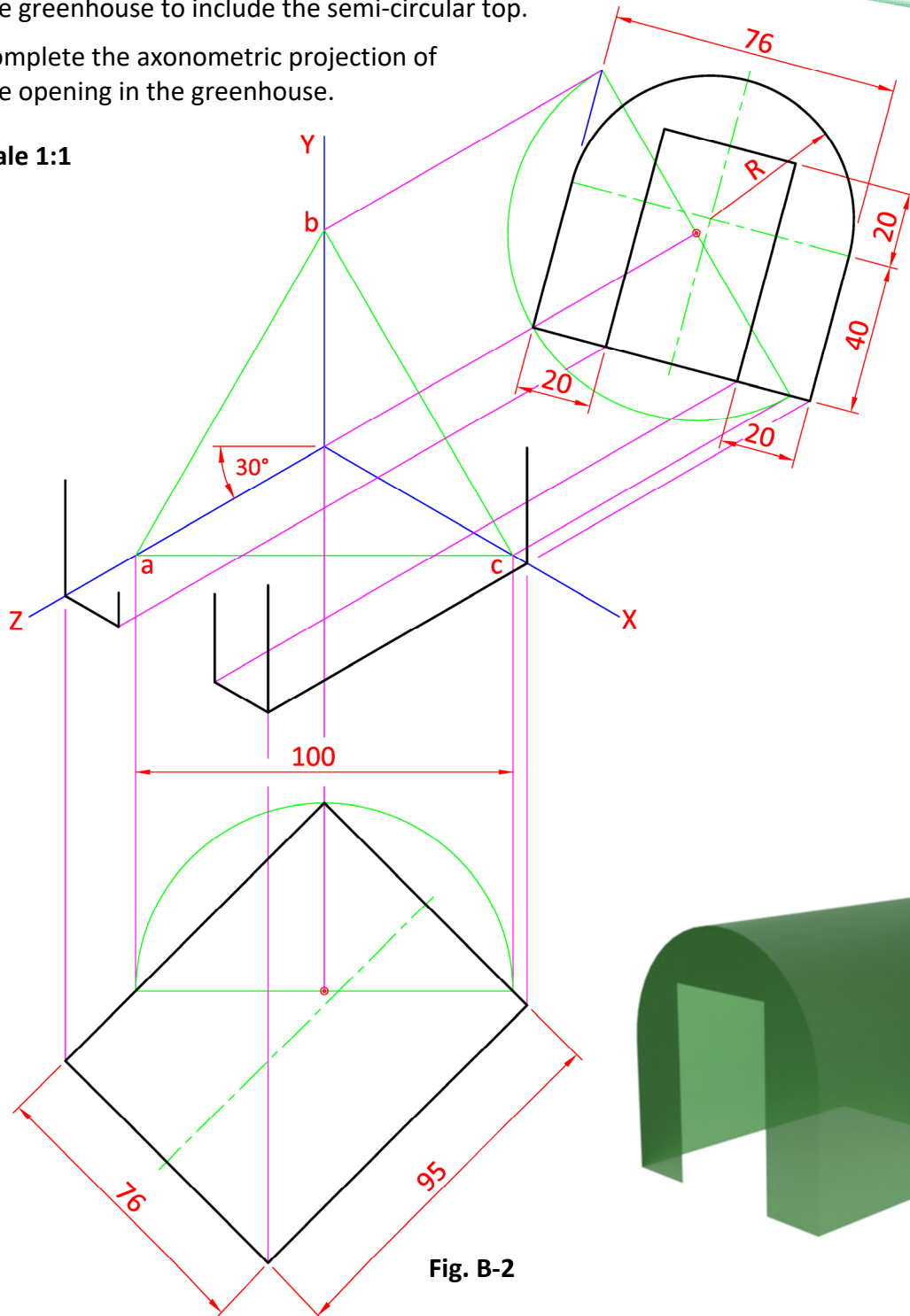


Fig. B-2

B-3. The image on the right shows a skate park in Castlebar, Co. Mayo. The park consists of a number of skating ramps.

Fig. B-3 below shows the elevation and incomplete plan of a similar skating ramp. A 3D graphic is also given.



- Draw the given elevation and incomplete plan of the ramp.
- Complete the plan showing all lines of interpenetration.
- Draw an end view of the ramp.

Scale 1:1

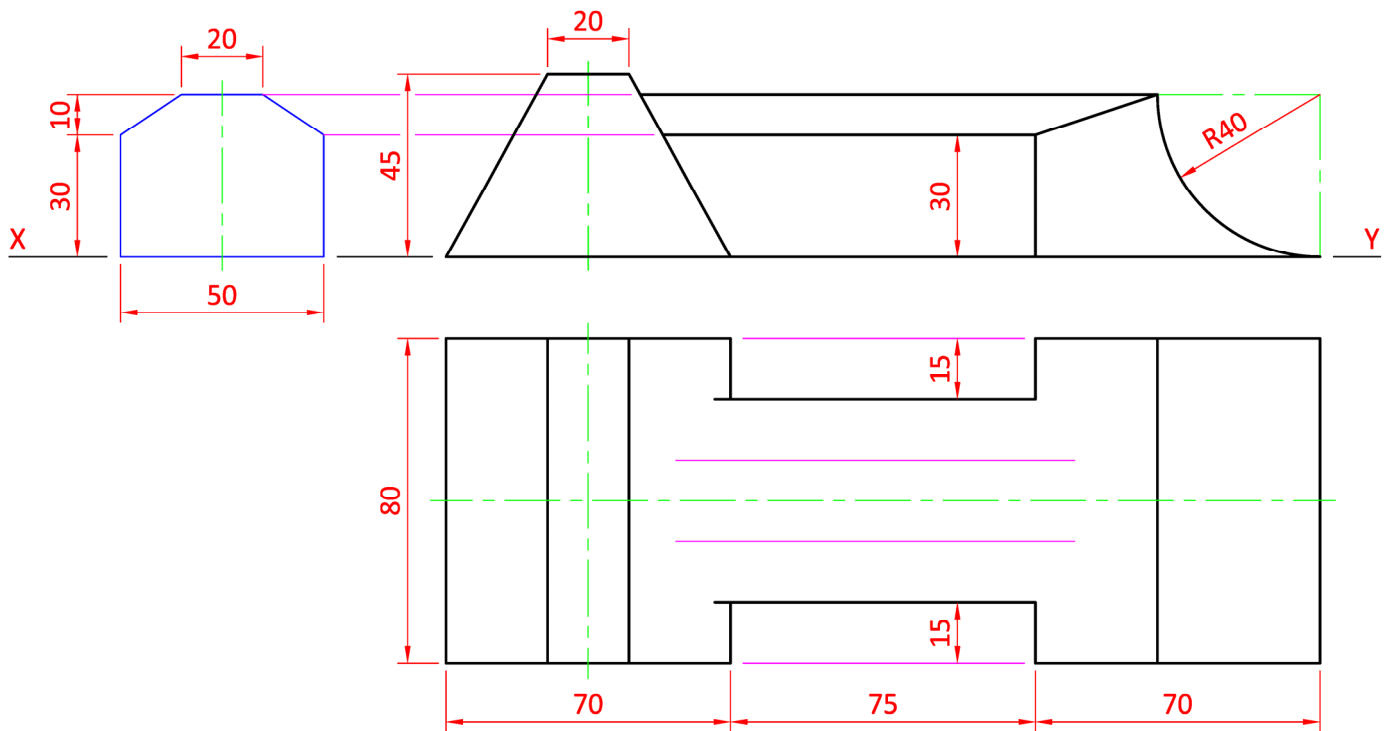
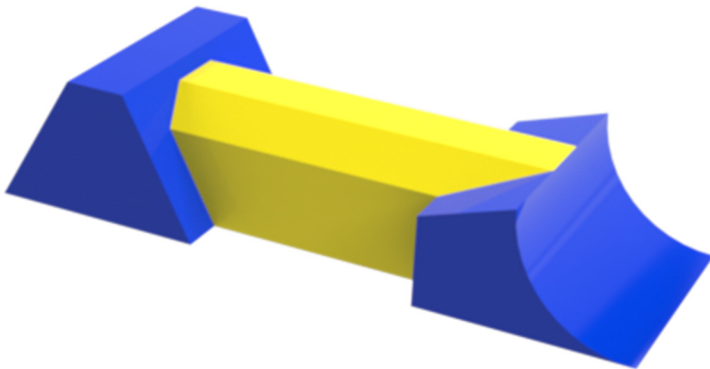


Fig. B-3



Section C - Applied Graphics

Answer **one** question (i.e. the option you have studied)
from this section on drawing paper.

Geologic Geometry

- C-1.** The image on the right shows a mining process.

The accompanying map, located on the back page of Section A, shows ground contours at five metre vertical intervals.

- (a) On the map supplied, draw a vertical section (profile) on the line **AB**.
- (b) Points **C**, **D**, and **E** are outcrop points on the surface of a stratum of ore.

Draw the plan and elevation of the triangle **CDE**.

- (c) Determine the strike and dip of the stratum.



Scale 1:1000

Structural Forms

- C-2.** The image on the right shows a kitchen table. The table is based on a hyperboloid of revolution which is formed by straight line elements.



Fig. C-2 below shows the plan and elevation of a similar table. The hyperboloid of revolution is constructed using 12 equally spaced elements.

- Draw the given plan. Locate 12 equally spaced points on the circumference of the inner circle and draw the 12 elements tangential to the circle at these points as shown.
- Draw the elevation showing the elements projected from the plan.
- Complete the elevation by drawing the freehand curves tangential to the elements as shown.

Scale 1:1

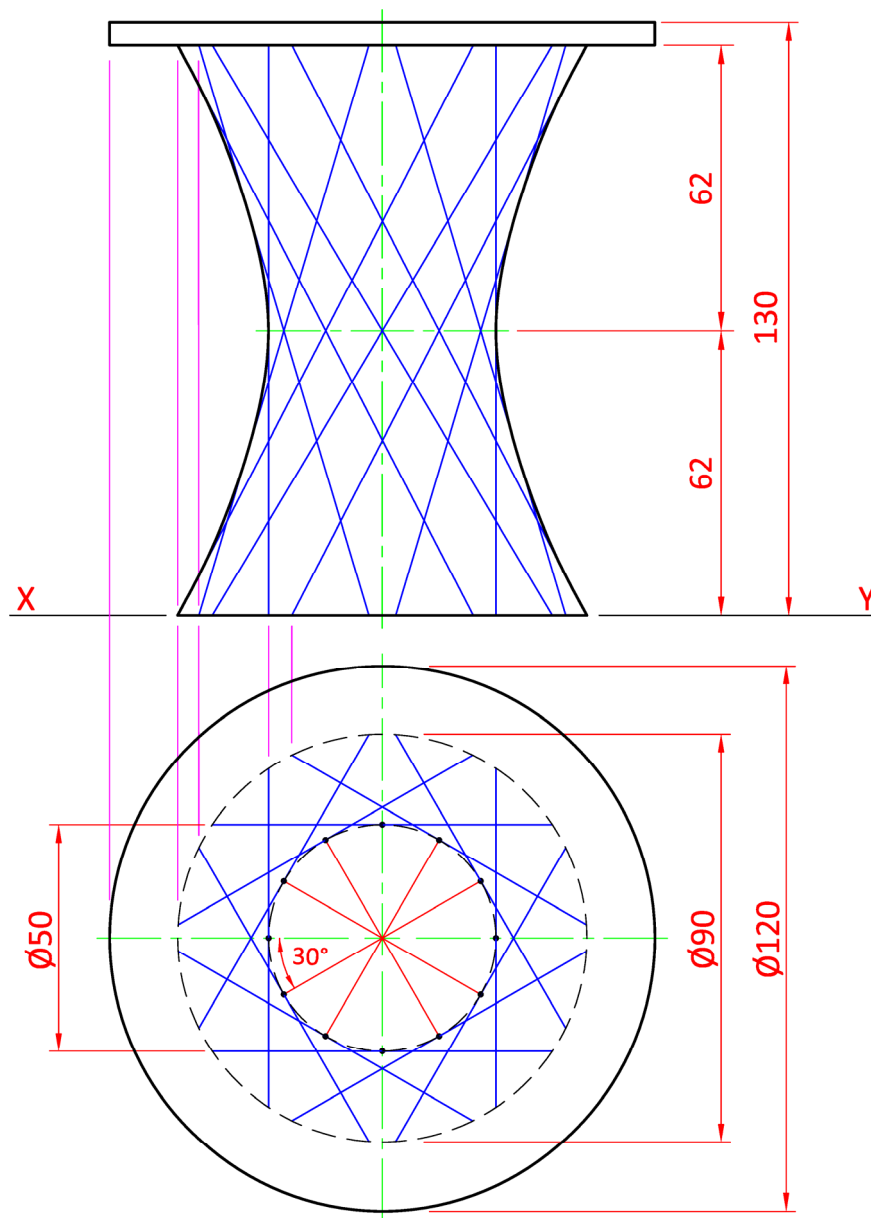


Fig. C-2

Surface Geometry

C-3. The image on the right shows a pencil case.

The projections of a similar pencil case are shown in Fig. C-3 below.

A 3D graphic is also given.

- (a) Draw the given elevation and end view of the pencil case.
- (b) Project a plan.
- (c) Draw a one-piece surface development of the pencil case.



Scale 1:1

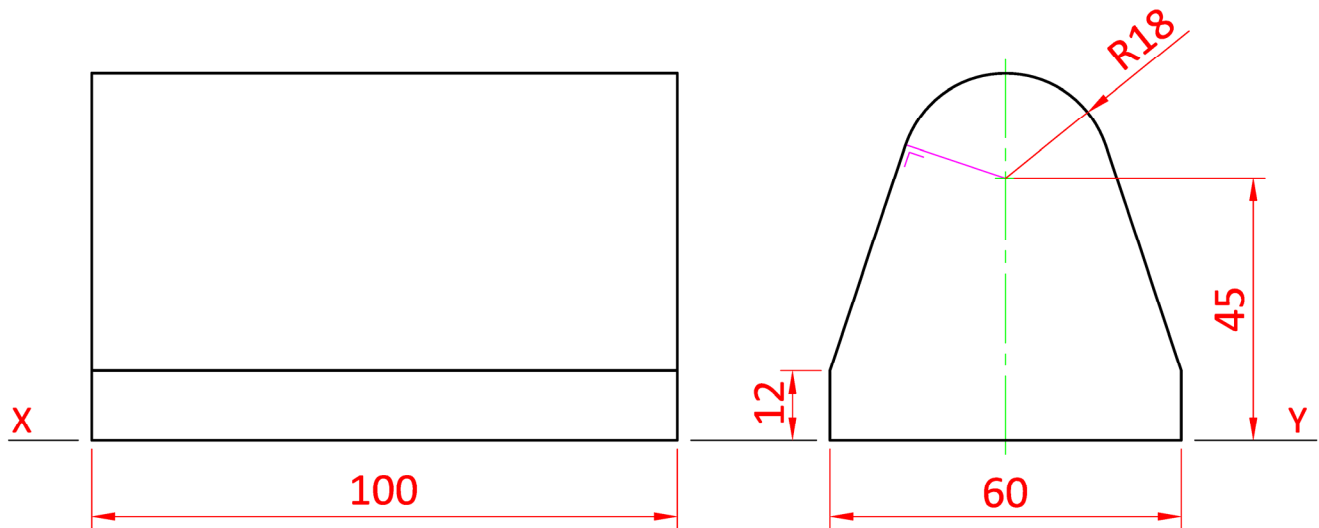
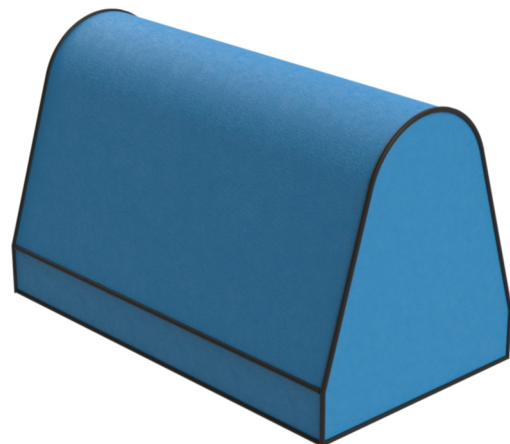


Fig. C-3



Dynamic Mechanisms

C-4. (a) The image on the right shows a child's push along toy.

Fig. C-4 below shows a circle **C** which represents one wheel of the toy as it rolls along the ground **AB**.

- Draw the given diagram.
- The circle **C** rolls clockwise along the line **AB** until the point **P** reaches the line **AB**.

Draw the locus of point **P** for this movement.

Scale 1:1

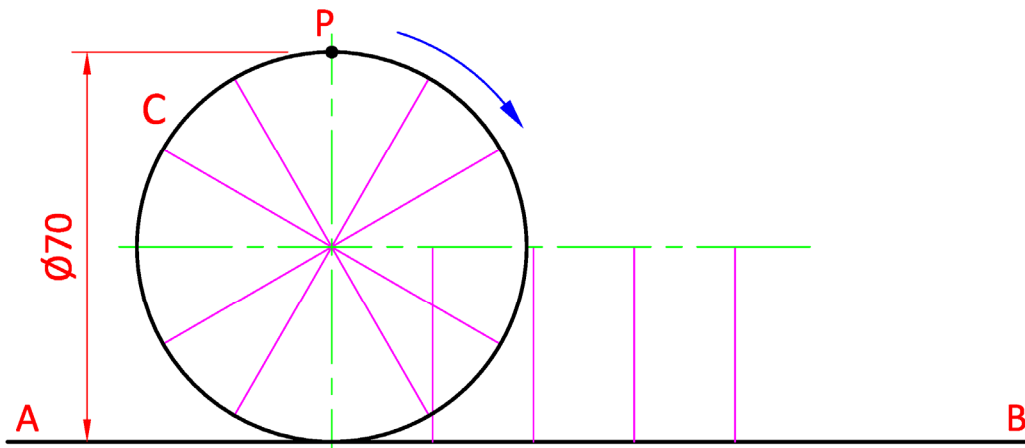
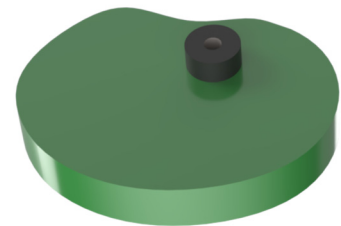


Fig. C-4

(b) The head of the toy moves from side to side as the toy is pushed along. This movement is created by a cam and follower.

The cam imparts the following motion to the follower:

- 0° to 90° Rise 50 mm with uniform velocity
- 90° to 120° Dwell
- 120° to 180° Rise 20 mm with uniform velocity
- 180° to 360° Fall 70 mm with uniform acceleration and retardation.



Draw the displacement diagram, using a distance of 15 mm to represent each 30° interval.

Note: It is not necessary to draw the cam profile.

Assemblies

C-5. The image on the right shows a cool box.

Details of a similar cool box are shown in Fig. C-5 below.

A parts list and a 3D graphic of the cool box are also shown.

Draw the **sectional elevation A-A** of the assembled cool box with the handle in a vertical position.

Note: Unless otherwise stated all fillets are radius 5 mm; any omitted dimensions may be estimated.

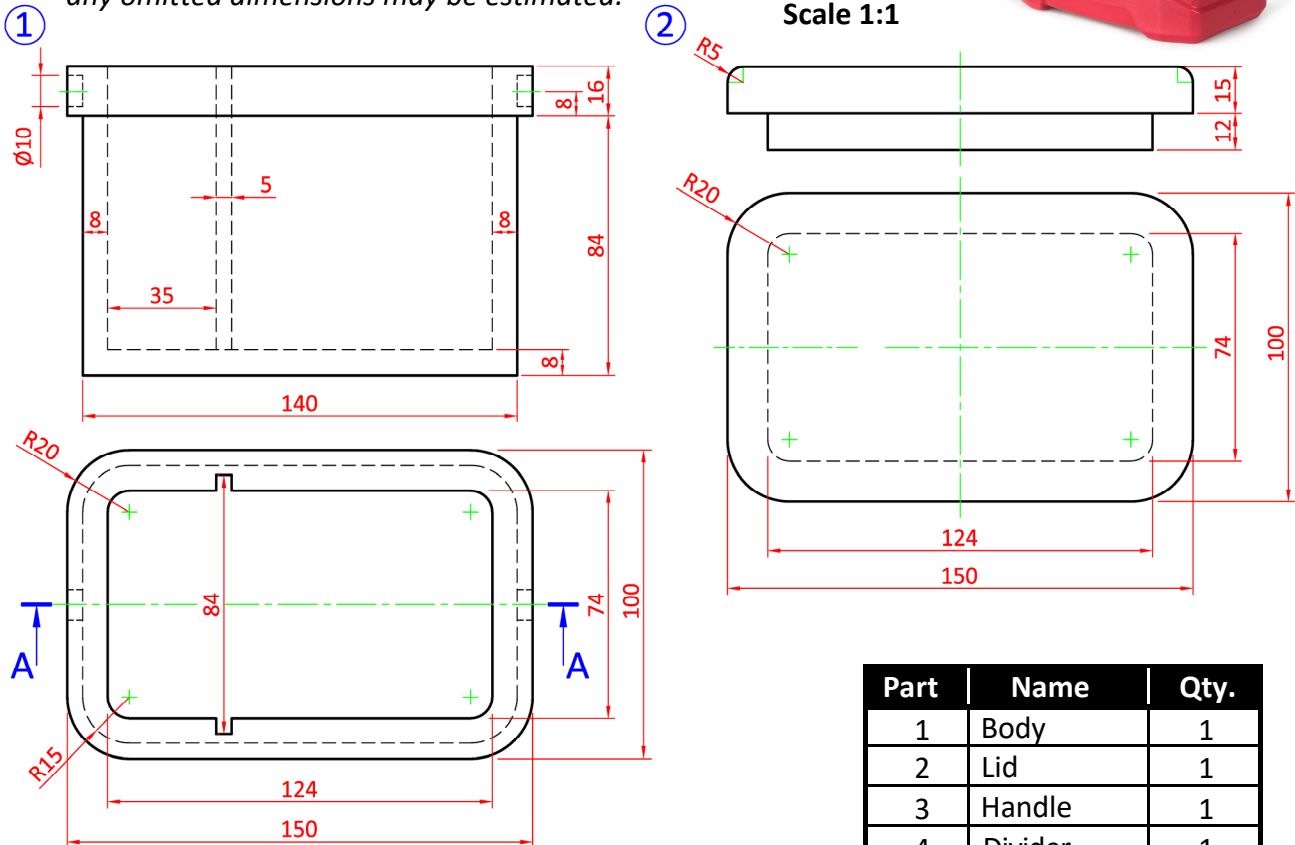


Fig. C-5



There is no examination material on this page

There is no examination material on this page

Do not hand this up.

This document will not be returned to the
State Examinations Commission.

Leaving Certificate - Ordinary Level

Design & Communication Graphics, Section B & Section C

Thursday, 18 June
Morning 9:30 - 12:30