



Junior Certificate Examination, 2011

Technical Graphics

Ordinary Level

Section B

(280 marks)

Monday, 20 June

Morning 9:30 - 12:00

Instructions

- (a) Answer **any four** questions. All questions carry equal marks.*
- (b) The number of the question must be distinctly marked by the side of each answer.*
- (c) Work on **one side** of the answer paper only.*
- (d) Write your examination number on each sheet of paper used.*

SECTION B. Answer **any four** questions. All questions carry equal marks.

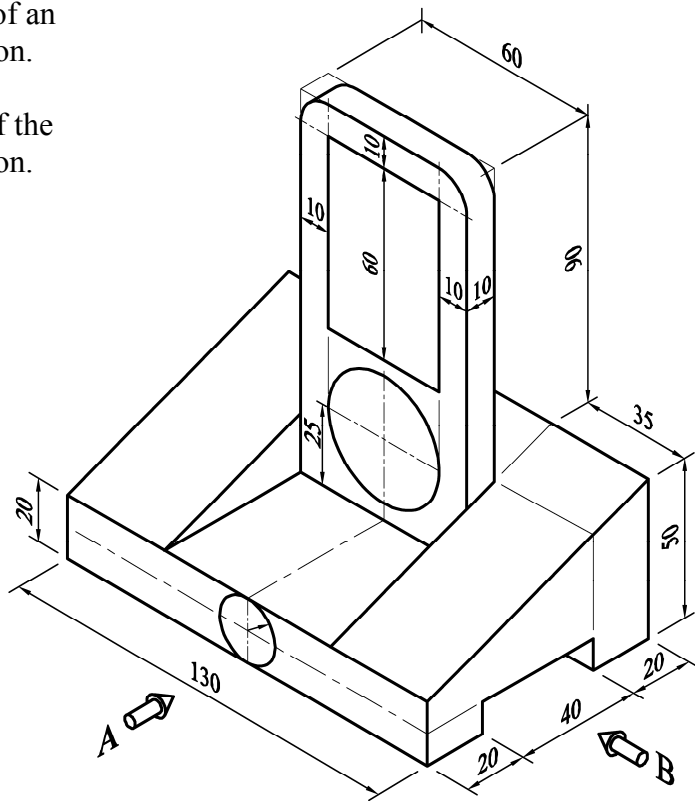
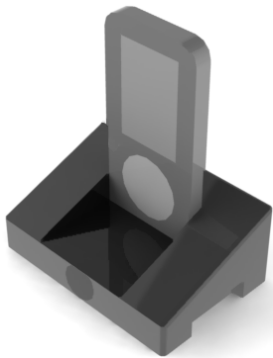
- 1** The figure shows the outline of an MP3 player and docking station.

Also shown is a 3D graphic of the MP3 player and docking station.

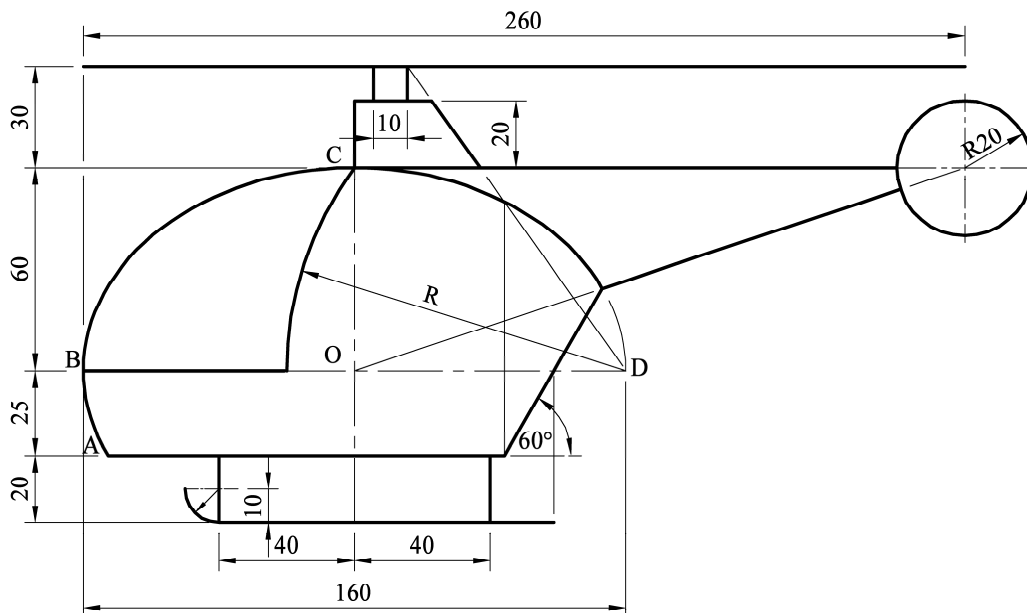
Draw:

- (a) An elevation in the direction of arrow A.
- (b) An end elevation in the direction of arrow B.

Insert **any four** dimensions.



2

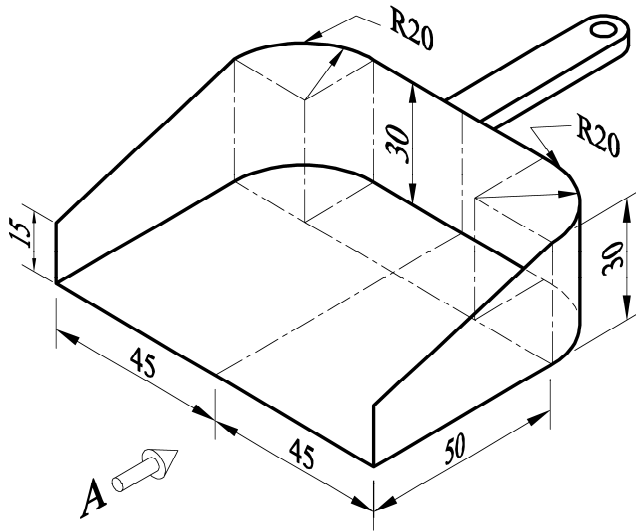


The figure shows the design of a model helicopter.

The curve **ABCD** is elliptical. **BD** is the **major axis** of the ellipse and is 160 mm long. **OC** is half the **minor axis** and is 60 mm long as shown.

Draw the given portion of the ellipse and then complete the drawing of the helicopter. Show all construction lines.

3



The figure shows a design for a dustpan. Also shown is a 3D graphic of the dustpan.

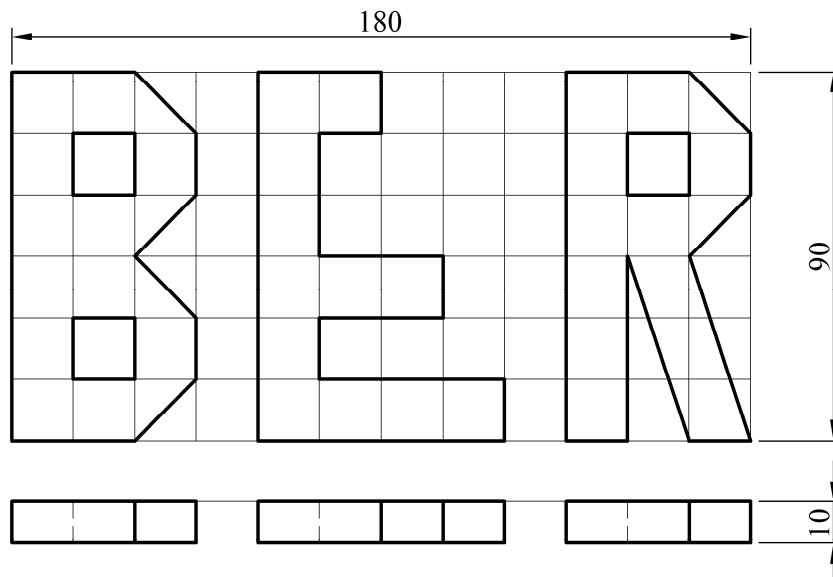
Draw: (a) An elevation in the direction of arrow A.

(b) A plan projected from the elevation.

(c) The complete **surface development** of the dustpan.

Note: Ignore the handle of the dustpan in all your drawings.

4



Every new house must have a **Building Energy Rating - BER** - certificate.

The figure shows the elevation and plan of the initials **BER**.

The grid in elevation is made up of 15 mm squares and the thickness in plan is 10 mm.

Draw **one** of the following views:

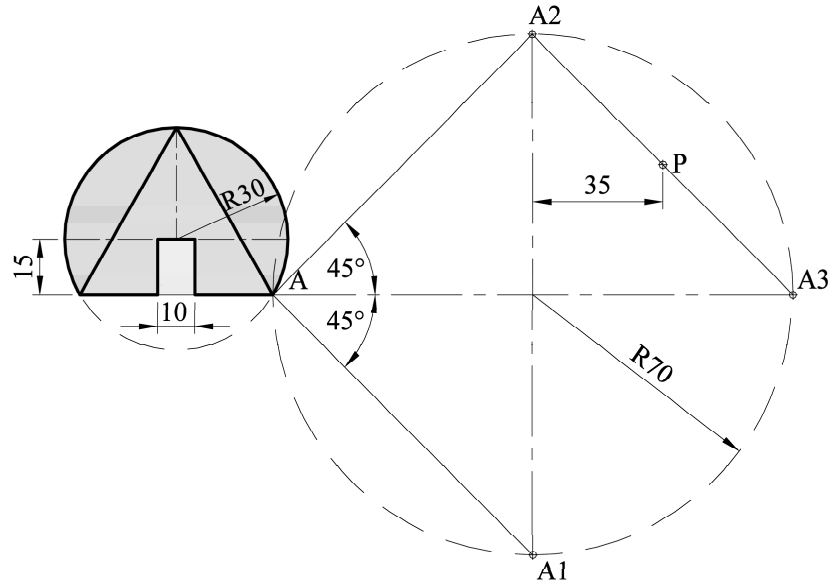
(a) An **isometric** view of the initials

or

(b) An **oblique** view of the initials.

Note: The solution must be presented on standard drawing paper.

5



The given figure shows the design of a logo for a camp site. Also shown is a small 3D graphic of the logo.

Draw the given logo and then locate the points **A**, **A1**, **A2**, **A3** and **P** as shown.

Find the image of the given figure under the following transformations:

- From point **A** to **A1** by a **translation**.
- From point **A1** to **A2** by an **axial symmetry** in the line **A-A3**.
- From point **A2** to **A3** by a **central symmetry** in the point **P**.

6 The figure shows a design for the body of a guitar.

Draw the given design, showing clearly how to find the centres of the circles shown.

Show all construction lines, tangents and points of contact.

