Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2018

Technical Graphics
Ordinary Level
Section B

(280 marks)

Monday, 18 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 a design for a toy space shuttle.
A 3D graphic is also shown.

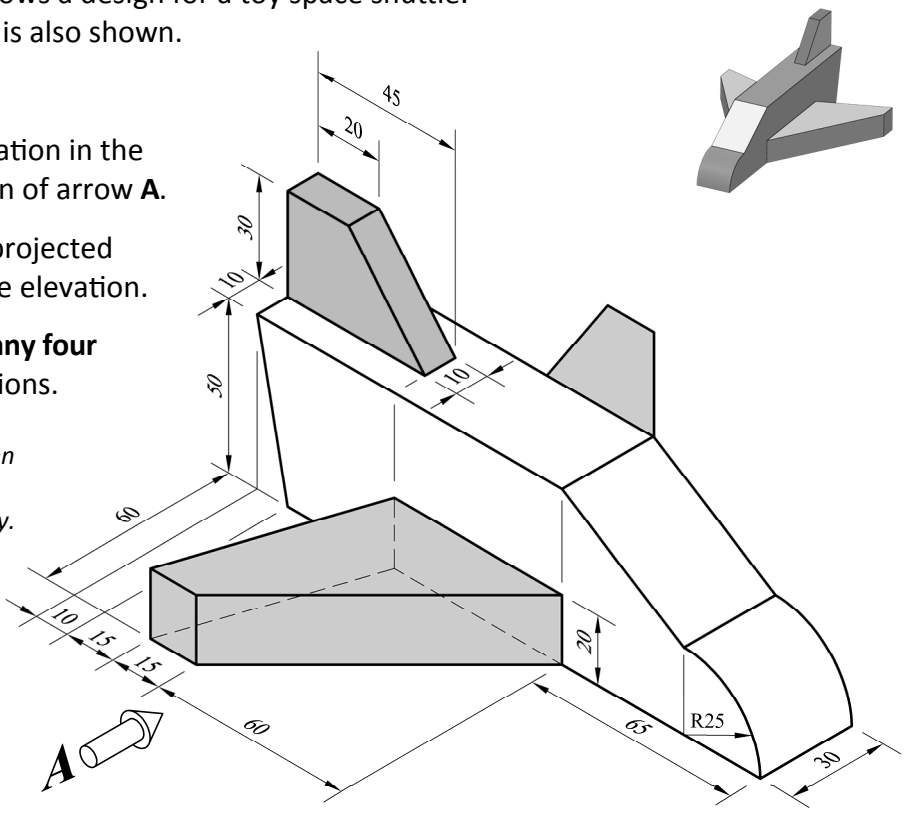
Draw:

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

(b) A plan projected from the elevation.

(c) Insert **any four** dimensions.

Note: *Some hidden detail has been included for clarity.*

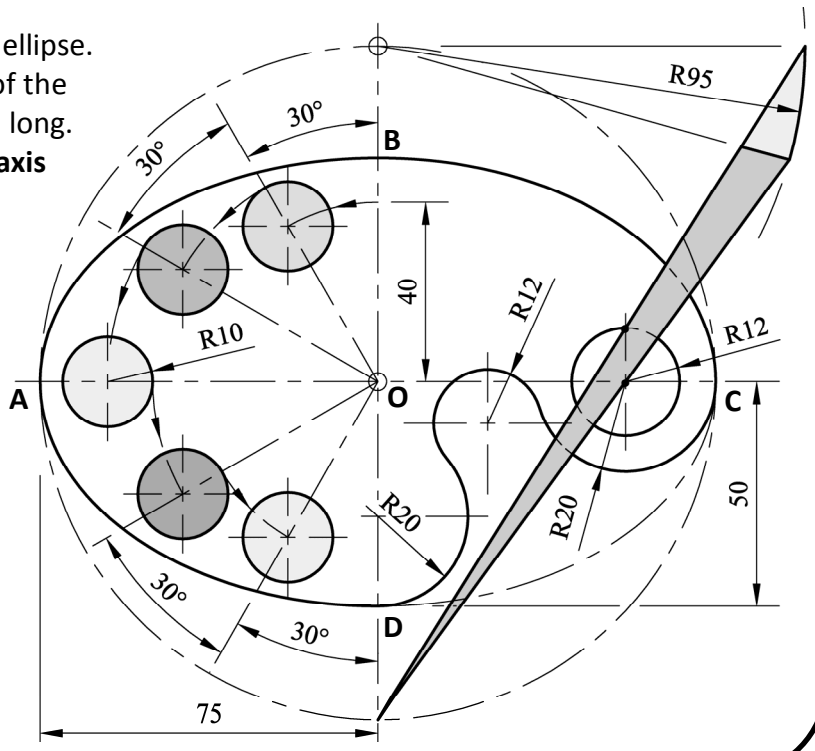


2. The graphic shows a design for an *Art Shop logo*.
The design is based on an ellipse and circles as shown.

The curve **ABCD** is an ellipse.
AC is the **major axis** of the ellipse and is 150 mm long.
OD is half the **minor axis** and is 50 mm long.

Draw the given ellipse and complete the design showing all constructions.

Note:
*All **five 'colour pot'** circles are **R 10**.*



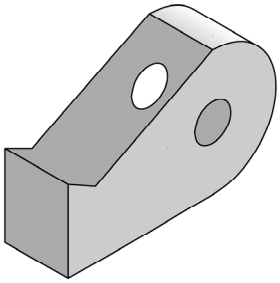
3. The graphics show a tape dispenser.

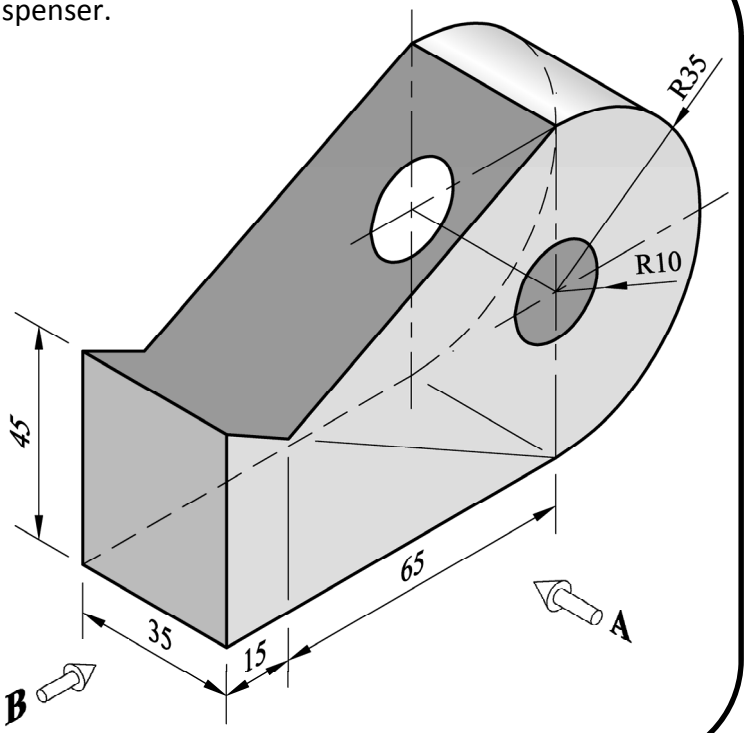
Draw:

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

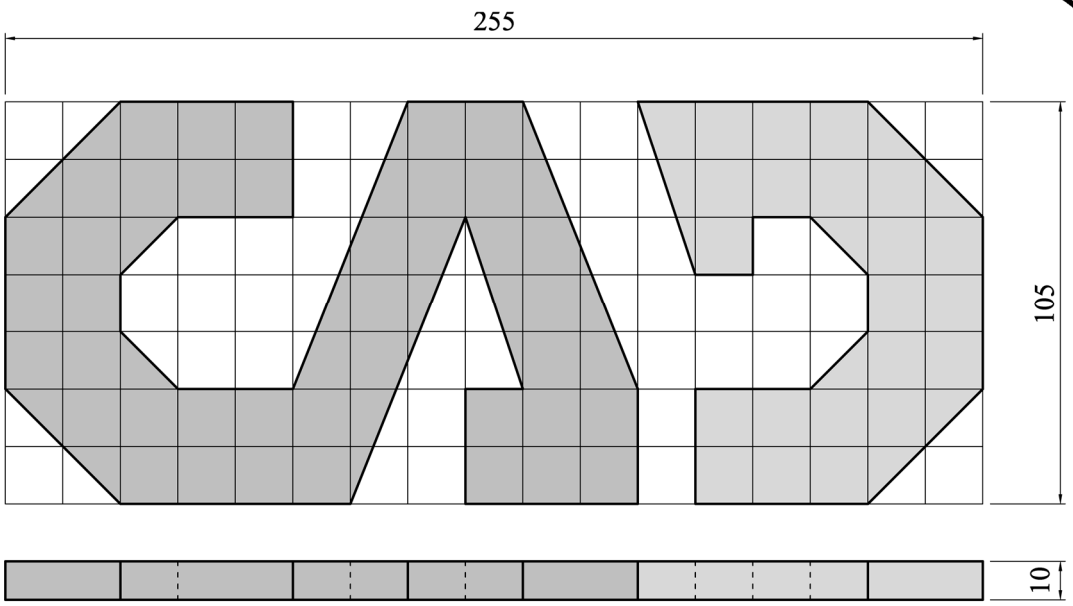
(b) An end view in the direction of arrow **B**.

(c) The complete **surface development** of the tape dispenser.





4.



The figure shows the elevation and plan of a **CAD** (Computer Aided Design) logo.

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

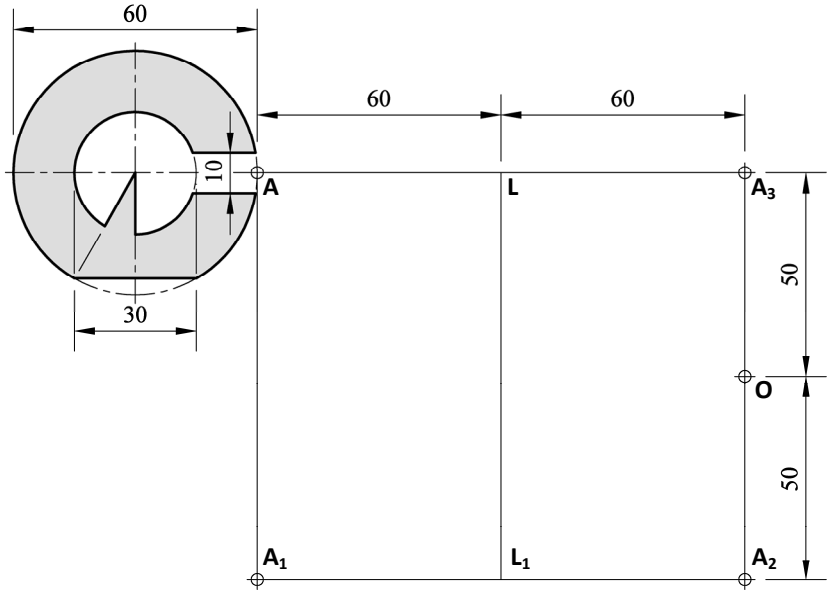
Draw **one** of the following views: **(a)** An **isometric** view of the logo.

or

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

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

5. The graphics show the design of a logo for '**Cloud*Key***' online data storage.



(a) Draw the given logo and then locate the points **A**, $\mathbf{A_1}$, $\mathbf{A_2}$, $\mathbf{A_3}$ and **O** as shown.

(b) Find the image of the given logo under the following transformations:

(i) From point A to A_1 by a **translation**
(ii) From point A_1 to A_2 by an **axial symmetry** in the line **L** - $\mathbf{L_1}$
(iii) From point A_2 to A_3 by a **central symmetry** in the point **O**.

Note: *All geometric constructions must be clearly shown on your drawing sheet.*

6. The figure shows a design for a microscope.

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

Show all construction lines, tangents and points of contact.