

**AN ROINN OIDEACHAIS**  
(Department of Education).

**BRAINSE AN MHEAN-OIDEACHAIS**  
(Secondary Education Branch).

**LEAVING CERTIFICATE EXAMINATION, 1927.**

**HONOURS**

**MECHANICAL DRAWING AND DESIGN**  
**BOYS AND GIRLS.**

**WEDNESDAY, 22nd JUNE.—AFTERNOON, 4 to 6 P.M.**

**BOYS ONLY.**

**NOTE.**—The use of mathematical instruments, protractors, scales, T- and set squares, and drawing-boards is allowed.

All construction lines must be clearly shown.

The number of the question must be distinctly marked by the side of each answer. Both sides of the paper may be used.

Questions marked (\*) have accompanying diagrams.

\*Q. 1. The plan is given of a Stuffing Box Gland. Draw full size according to the dimensions shown. Show clearly the construction by which you would determine the tangents.

\*Q. 2. Given the elevation of a hexagonal prism standing on one edge of the hexagonal end, the edge perpendicular to XY, and one of its rectangular faces inclined to the H.P. at an angle of  $30^\circ$ . Draw the plan and show the section made by the horizontal plane E.F.

\*Q. 3. The diagram shows the cross-section of a square box, with a hollow lid, which is open at an angle of  $135^\circ$ . Draw the plan and the front elevation of the box to the scale of  $\frac{3}{4}$  inch to 1 foot.

Q. 4. Construct a diagonal scale of feet, to show single feet up to 300 feet, on which 2 inches represents 150 feet. Figure the scale properly, and show by two small marks on it how you would take off a distance of 175 feet.

\*Q. 5. The figure shows the plan and elevation of a cross. Draw a new elevation on the given line  $X^1Y^1$ . Scale one inch to one foot.

Q. 6. Make a design for the cover of a school magazine, to be called "ἄν ἑλμπά" or "THE LAMP."

The design must be suitable for a single printing in black on white or coloured paper.

The size of the cover is 9 inches high by 6 inches wide, so that the design must fall within those limits. The title must be an essential part of the design, and appropriate spaces must be left for the date and contents.

State the process by which your design could be reproduced.

Or,

Make a design for a hanging sign for a hotel. The design may be any ornamental shape, 3 feet by 2 feet outside measurement, including a moulding or frame. The words "ἑλμπά ὄστᾶ" or "HOTEL" in bold lettering to form an important feature of the design. Scale 3 inches to 1 foot. State the material in which the design could be suitably carried out.

## GIRLS ONLY.

**NOTE.**—The use of mathematical instruments, protractors, scales, T- and set squares, and drawing-boards is allowed.

All construction lines must be clearly shown.

The number of the question must be distinctly marked by the side of each answer. Both sides of the paper may be used.

Questions marked (\*) have accompanying diagrams.

\*Q. 1. The diagram shows half of a D'Oyley. Indicate a method by which the leading wave line of the border could be made up of arcs of circles of equal radius.

\*Q. 2. Draw the figure shown in the diagram according to the given dimensions.

\*Q. 3. The diagram represents the back of a hand-mirror. Draw the geometrical construction necessary in setting out the upper portion marked AB of mirror. It will be sufficient to finish one-half.

\*Q. 4. A repeating pattern based on semi-circles is given. Draw full size, adhering strictly to the figured dimensions.

\*Q. 5. The front and side elevations of a wooden coal-box are given. Draw the plan of the box and show on plan the panelling of lid.

The true shape of lid, with panelling thereon, is given.

Q. 6. Design a simple ornament for the decoration of the corner of a table cloth or curtain. The size of the design must be taken at seven inches square. It may, however, be treated either as a corner device complete in itself or as connected with a running border. State the material and manner of execution by which your design could be suitably carried out.

*Or,*

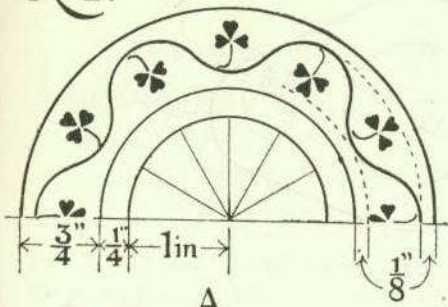
Make a design for the cover of a school magazine, to be called "AN LAMP" or "THE LAMP." The design must be suitable for a single printing in black on white or coloured paper. The size of the cover is 9 inches high by 6 inches wide, so that the design must fall within those limits.

The title must be an essential part of the design, and appropriate spaces must be left for the date and contents.

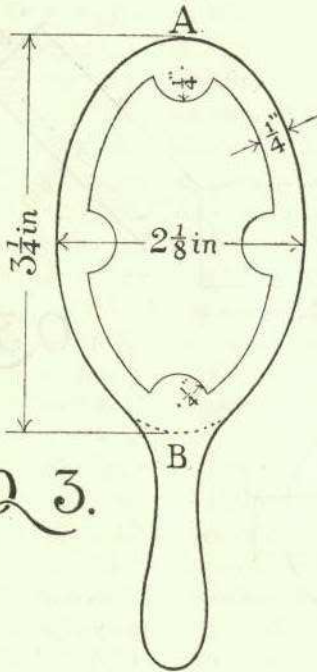
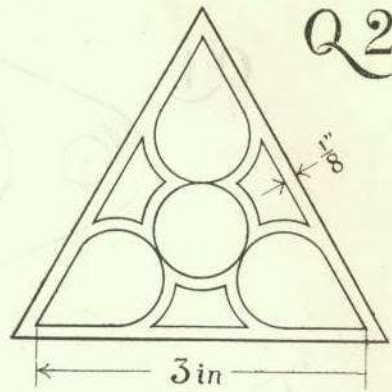
State the process by which your design could be reproduced.

GIRLS ONLY.

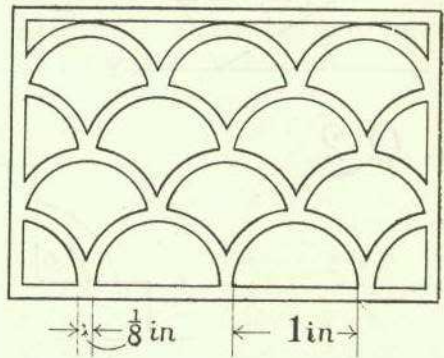
Q1.



Q2.

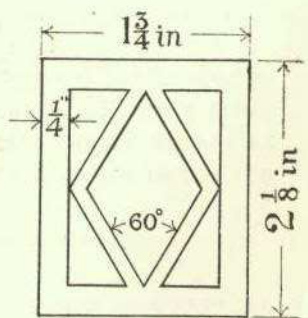
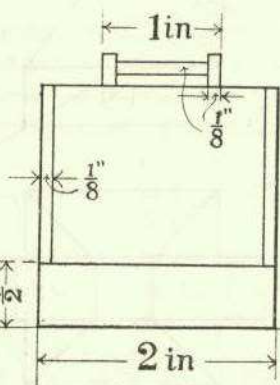
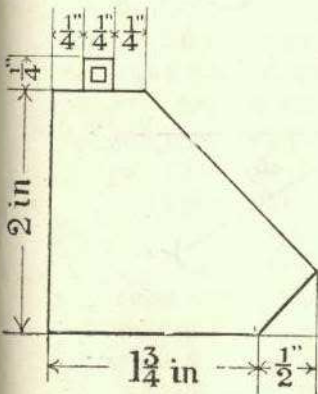


Q4



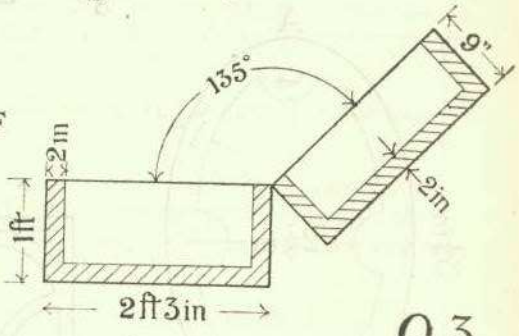
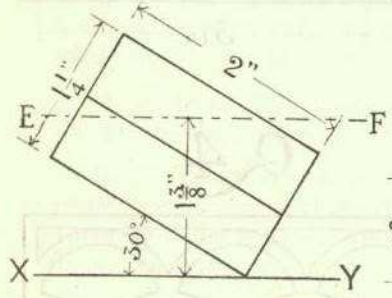
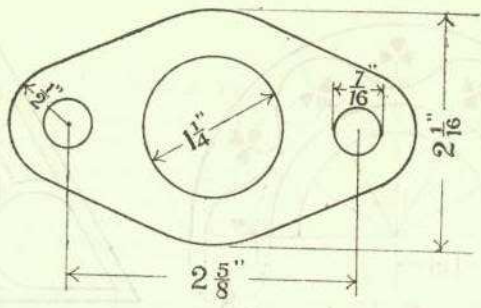
Q3.

Q5.

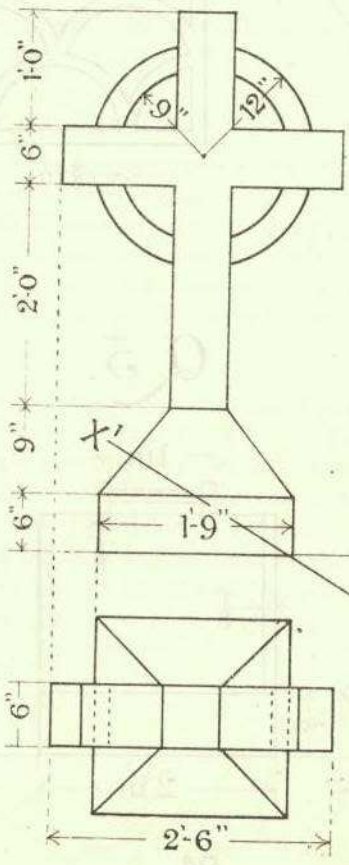


BOYS ONLY.

Q1.



Q2.



Q3.

Q5.

