

1

Read all parts of the question before starting to draw.

The handle of a hand drill consists of a shiny strip of metal with a wooden knob attached to it. A pictorial sketch showing the two parts exploded from each other is given to the right.

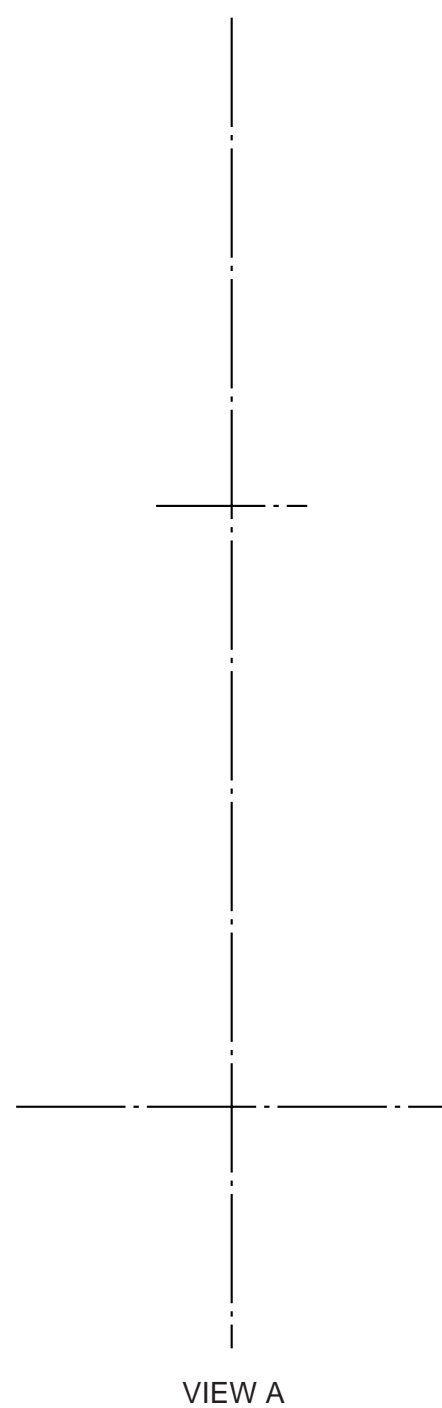
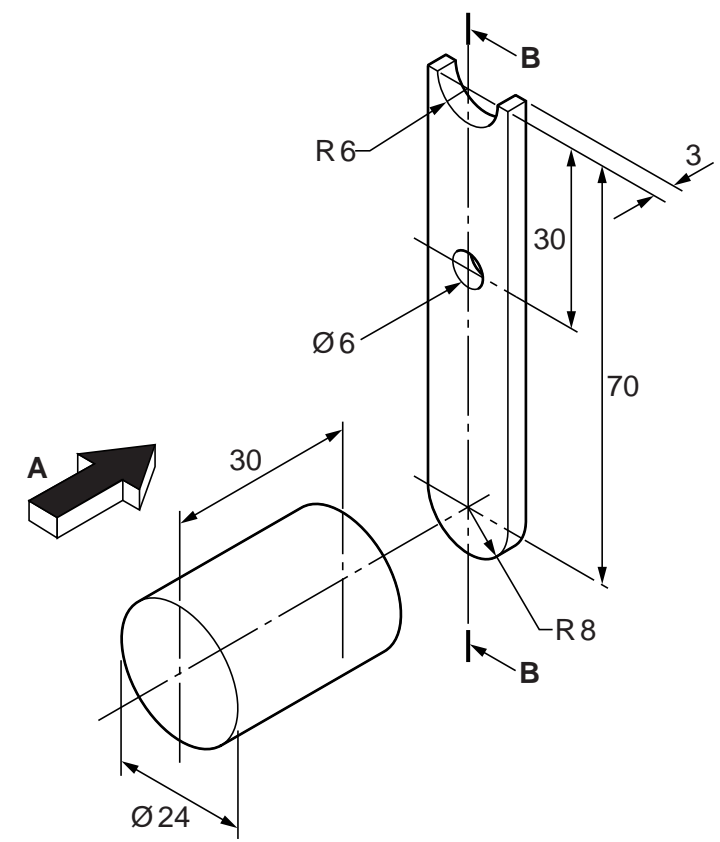
(a) In the space below, draw twice full size (scale 2:1), in first angle orthographic projection, the following views of the assembled handle:

- (i) the view as seen looking in the direction of arrow A. The vertical centre line of this view has been drawn for you; [10]
- (ii) the section taken on the line BB. [12]

Include in your drawings:

- a suitable method of joining the knob to the metal strip while allowing it to revolve freely; [3]
- your design for a suitable shape for the knob which will make it easy to grasp. [2]

(b) Add pencil shading only to view A to show the materials from which the handle is made. [3]



2 A television company is to introduce a series of programmes about sea and river craft. The series is to be called 'BOAT'. A logo is needed for the programme in which the letters B. O. A. T. are assembled to form the shape of a boat.

In the spaces indicated:

- (a) sketch **two** ideas for the logo; [8]
- (b) (i) choose your better idea and then draw it accurately as large as possible in the given rectangle; [17]
- (ii) shade and/or colour your given answer to show what the logo will look like. The logo will be seen on a pale blue background. Do **NOT** shade or colour the background in your answer. [5]

ANSWER (a) HERE

ANSWER (b) (i) AND (ii) HERE

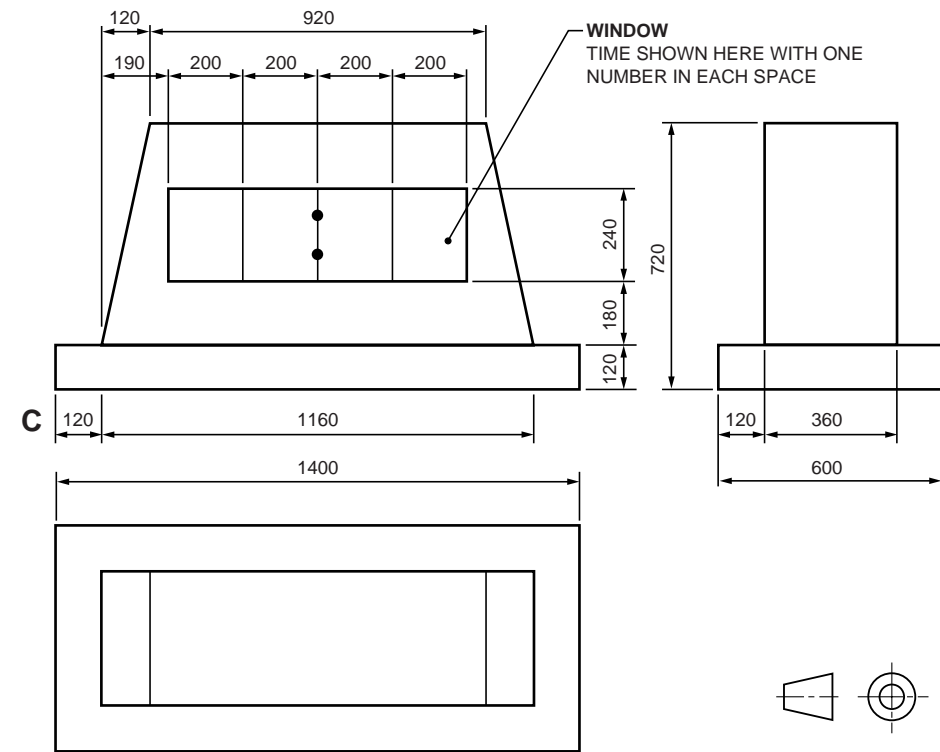
3

Read all parts of the question before you start to draw.

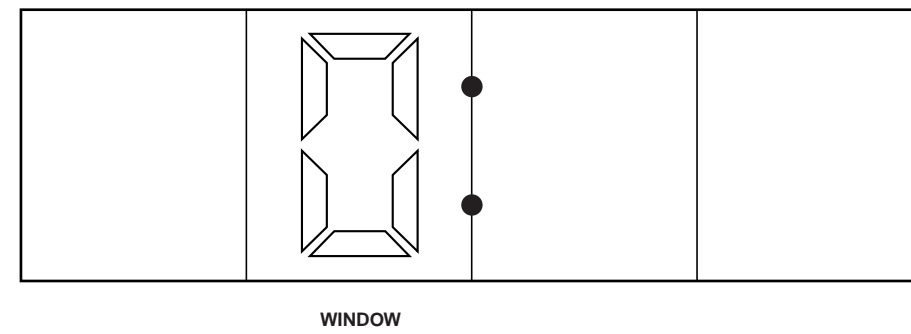
A sports company is to promote athletics meetings by providing Electronic Timing Units. Orthographic views of one of the units is given below.

In the spaces indicated:

- (a) (i) sketch freehand a set of numbers from 1 to 9; suitable for the Electronic Timing Unit; [4]
- (ii) on the drawing of the window of the unit given, complete the time 10:23. The 0 has been drawn for you; [6]
- (b) draw to a scale of 1:10, an **ISOMETRIC** view of the Timing Unit with the corner **C** to the front. Do **NOT** show the time on this drawing. [20]



ANSWER (a) (i) AND (ii) HERE

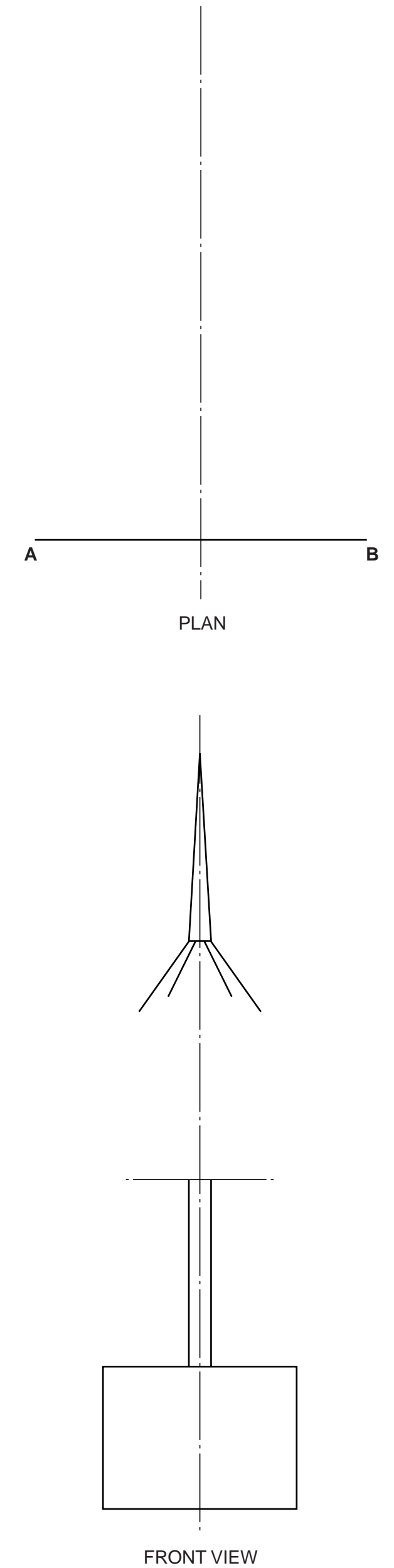
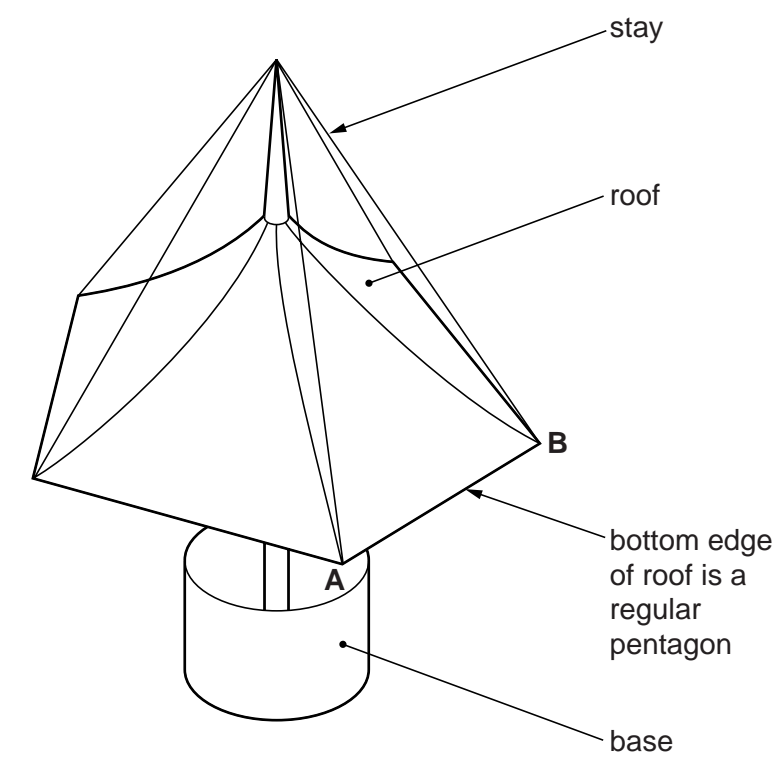


ANSWER (b) HERE

4

A model of a fun-fair stall is shown in the sketch below. The model is made largely of thin card. The base is open at the top and bottom and the roof is supported by thin stays. Incomplete full size orthographic views of the model are given to the right.

- (a) In the box provided, draw the symbol for the angle of projection used for the orthographic drawings. [3]
- (b) (i) Complete the plan using any accurate method. The small circle can be drawn freehand. [6]
- (ii) Complete the front view. The curved lines can be drawn freehand. [9]
Hidden detail is not required.
- (c) Construct a full size development of the **base** of the model. [6]
- (d) Use a graphical method to find the true length of one of the stays. Print your answer in the box provided. [6]



ANSWER (a) HERE

LENGTH OF STAY