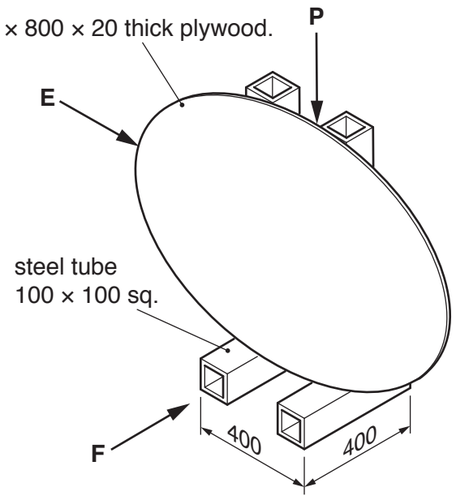
**Section A**

Answer question **A1**.

**A1** On the right is a sketch of a portable sign used at an airport.




**(a)** In the space below draw the following orthographic views:

**(i)** the front view in direction of arrow **F**; [10]

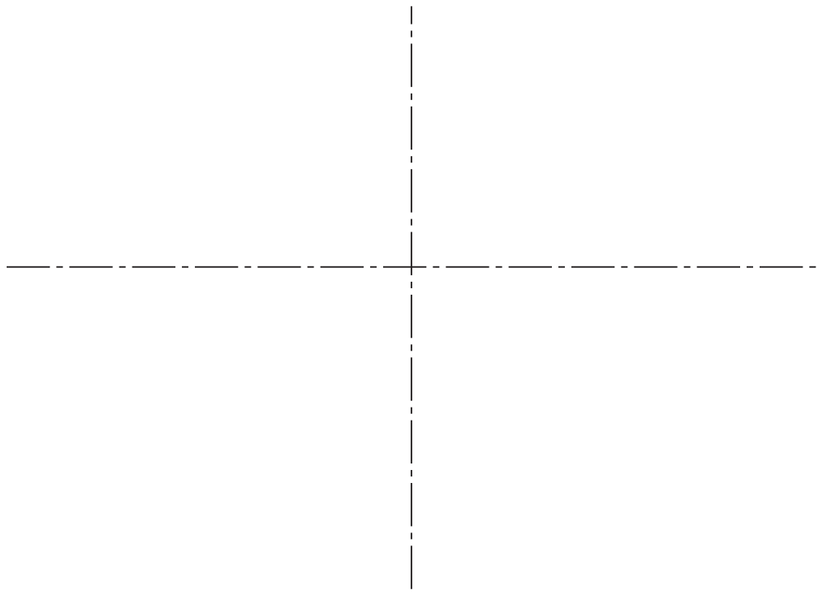
**(ii)** the completed end view in direction of arrow **E**; [3]

**(iii)** the plan in direction of arrow **P**. [3]

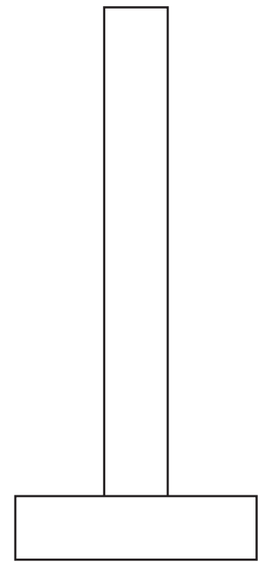
Show hidden detail on all views.

Ignore how the plywood is joined to the steel tube.

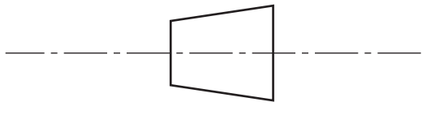
**Scale 1:10**



**Front view**



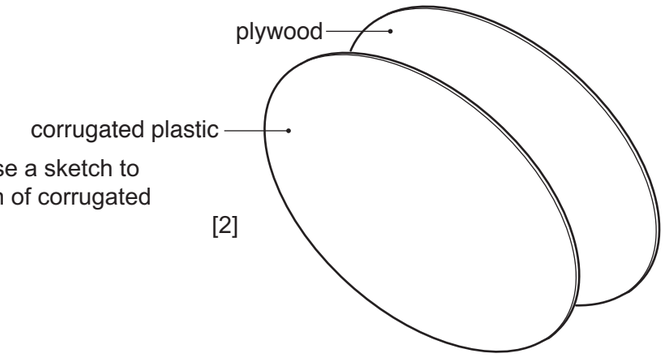
**End view**



**Plan**

**(b)** Complete the symbol to show that the sign shown in part **(a)** is drawn in first angle orthographic projection. [3]

**(c)** The signs can be used for a number of different functions by attaching a pre-printed elliptical sheet to the plywood as shown.
The pre-printed sheet is made from corrugated plastic.




**(i)** In the space below use a sketch to show the construction of corrugated plastic. [2]

**(ii)** The text for a coffee shop sign is drawn in a font called 'Stencil'
Explain what you understand by the term font.

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.....

..... [2]

**(iii)** Complete the sign on the right by adding the word COFFEE in the same font. [3]


**(iv)** The corrugated plastic signs need to be changed regularly. Use notes and sketches to show how they can be changed without the need to make holes in them. [4]

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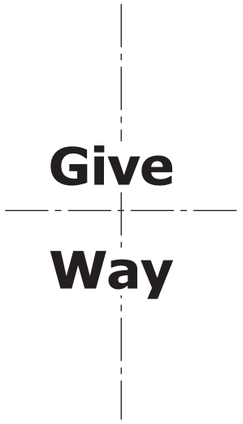
**Section B** - Answer any **two** questions from this section.

**B2** Geometrical shapes are used for signs at the airport.

**(a)** Using instruments, complete these signs by adding:

**(i)** concentric circles R30 and R35; [2]

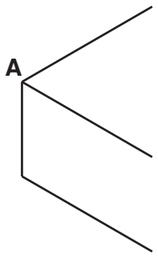

**(ii)** inverted equilateral triangle, length of side 60; [3]

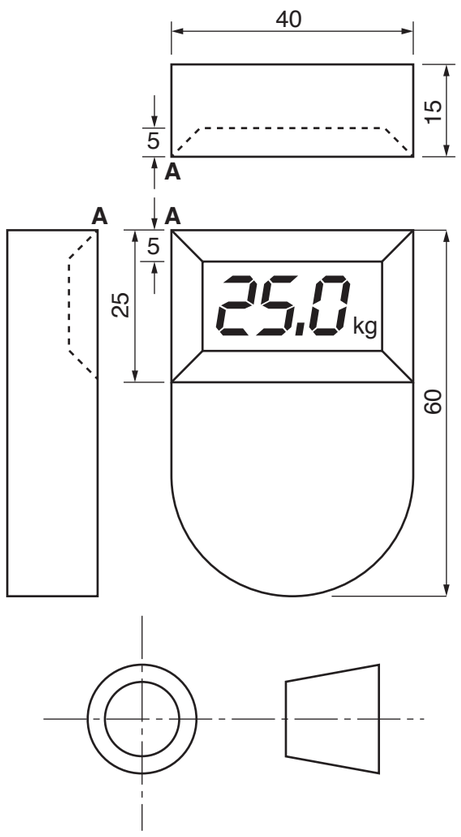



**(iii)** octagon, length of side 30. [3]


**(b)** Passengers are limited to how much baggage they can take on-board the aircraft. On the right is an orthographic drawing of baggage scales.
In the space below draw an isometric view of the scales on the given isometric axes. [9]

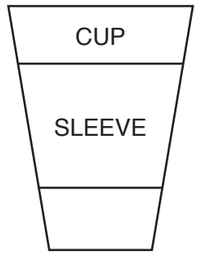
Do not include the 25.0 kg weight in your isometric view.




**(c)** Coffee is sold at the airport in plastic cups with a corrugated card sleeve.

**(i)** Using the drawing of the cup and sleeve shown below construct, using instruments, the development (net) of the card sleeve. [6]




**(ii)** Explain why corrugated card is used for the sleeves.

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..... [2]

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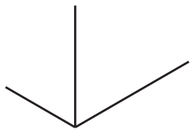
**B3** **(a)** Rainfall for a holiday island is recorded as follows:

| Season | Rainfall (mm) |
|---|---|
| Winter | 200 |
| Spring | 125 |
| Summer | 75 |
| Autumn | 100 |

**(i)** Draw a three dimensional (3D) bar chart on the given axes to display the rainfall.
Fully label the bar chart and use colour or shading to identify the seasons. [6]



**(ii)** In the space below sketch a symbol to show that the bar chart refers to rainfall. [2]

**(b)** Sunshine for a holiday island is recorded as follows:

| Season | Average hours of sunshine per day |
|---|---|
| Winter | 6 |
| Spring | 9 |
| Summer | 11 |
| Autumn | 8 |

**(i)** In the space below draw a line graph to show the sunshine over the four seasons.
Fully label the line graph. [5]

**(ii)** In the space below sketch a symbol to show that the line graph refers to sunshine. [2]

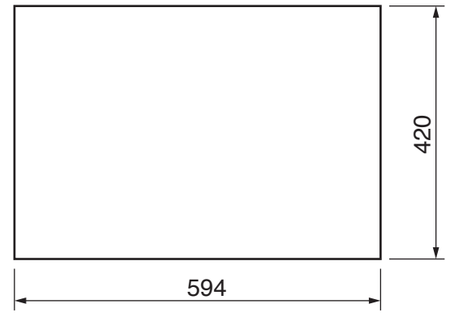
**(c)** A survey of passengers at the airport found that they were travelling for the following reasons:

| Reason | Number of Passengers |
|---|---|
| Leisure | 300 |
| Business | 240 |
| Family | 120 |
| Other reasons | 60 |

Using instruments, draw a pie chart to display the findings.
Fully label your drawing and add colour or shading. [6]

**(d)** The information for the different charts is printed on to A4 paper which is sold by size and weight.
A representation of a piece of A2 sized paper is shown below.

**(i)** On the drawing show how many pieces of A4 paper can be cut from the sheet of A2. [2]




The thickness of paper is defined by its weight e.g. 100 gsm.

**(ii)** What does 'gsm' mean?

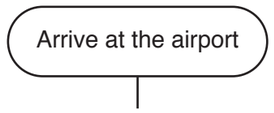
g.....s.....m..... [2]

**B4** **(a)** In order to help first time flyers, the airport requires a flow chart to explain the process from check-in to departure of their flight.

The stages are described below in their correct sequence.

- Arrive at the airport
- Check-in at airline desk
- Go through security
- Wait in Departure area
- Is departure gate open?
- Go to departure gate
- Board aeroplane

Complete the flow chart below. [9]

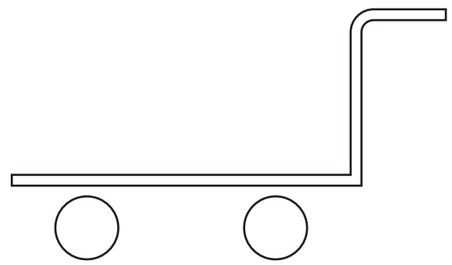



The time at your local airport is 14:00. At your destination, London, it is 11:00.

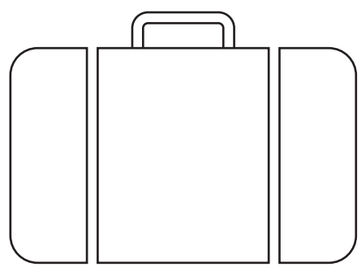
**(b)** In the space draw **two** symbols that show the local time and the time in London. [5]

Symbols are used throughout airports to convey information.

**(c)** **(i)** Modify the sign to indicate that trolleys are **not** allowed. [1]



**(ii)** Modify the sign to indicate that '**baggage reclaim**' is on the right. [2]



**(iii)** In the space below draw a symbol to show aircraft '**arrivals**'. [4]

**(iv)** In the space below draw a symbol to show '**up escalator**'. [4]

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