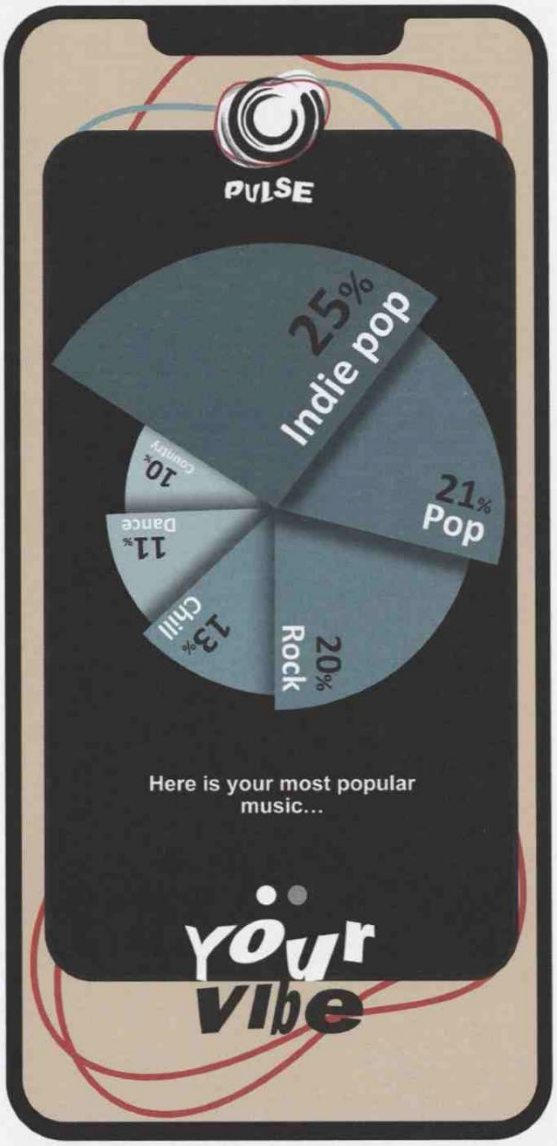
Candidate 5 evidence

DO NOT WRITE IN THIS MARGIN

Total marks — 80

Attempt ALL questions

1. Pulse is a music streaming app for smartphones. A screen from the app is shown below.



MARKS | DO NOT WRITE IN THIS MARGIN

1. (continued)

(a) The screen shows a user's most popular types of music listened to over a year.

(i) State the name of the chart used. 1

Pie chart

(ii) Explain why this chart is appropriate to communicate this information. 1

it easily shows data in percentages out of 100

(b) Describe **three** ways the graphic artist has graphically communicated the most popular types of music on the screen. 3

~~Size, colour & depth~~

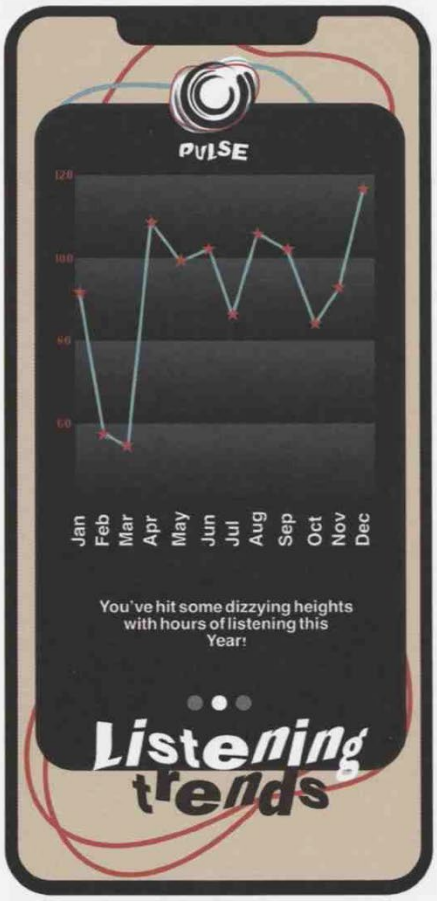
making the biggest one as the most popular chunk using Size, making the most popular types the darkest colours, and the use of drop shadows giving the illusion of depth making the most popular advancing over the rest

[Turn over

MARKS | DO NOT WRITE IN THIS MARGIN

1. **(continued)**

A second screen from the app is shown below.



(c) This graph shows the number of hours a user listened to music each month.

(i) State the name of the graph used above. **1**

Line Graph

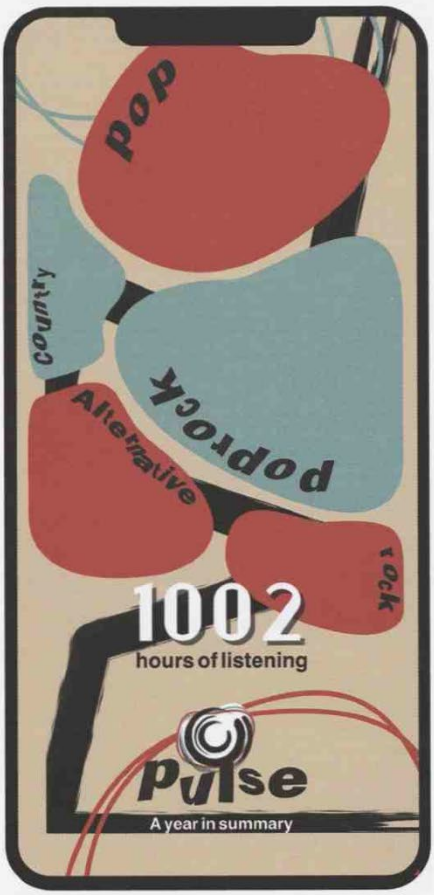
(ii) Explain why this graph is appropriate to communicate this information. **1**

good for displaying data over a time period

MARKS | DO NOT WRITE IN THIS MARGIN

1. (continued)

A graphic layout showing another screen from the app is shown below.



(d) Describe **two** ways each of the following design elements and principles have been used in the layout:

(i) Depth the bright Red advancing and the beige and black receading — 2

the "1002" being overlapped and using a drop shadow over the rest of the app

MARKS | DO NOT WRITE IN THIS MARGIN

1. (d) (continued)

(ii) Unity the warm red tones with the warm beige backround the white lettering of "1002" and "a year Summary" 2

(iii) Contrast the bright red blobs contrasting against the dark black lines the white "A year Summary" against black line 2

(e) Describe **one** way alignment has been used in the layout. 1

the "hours of listening" is in line parallell to the straight black line at the bottom

[Turn over

MARKS | DO NOT WRITE IN THIS MARGIN

2. A landscape design company has produced graphics for a new garden studio shown below.



preliminary graphic



promotional graphic

(a) (i) Explain the purpose of a promotional graphic. 1

to give the people a realistic idea of what the concept looks like

A digital version of the manual preliminary graphic is created.

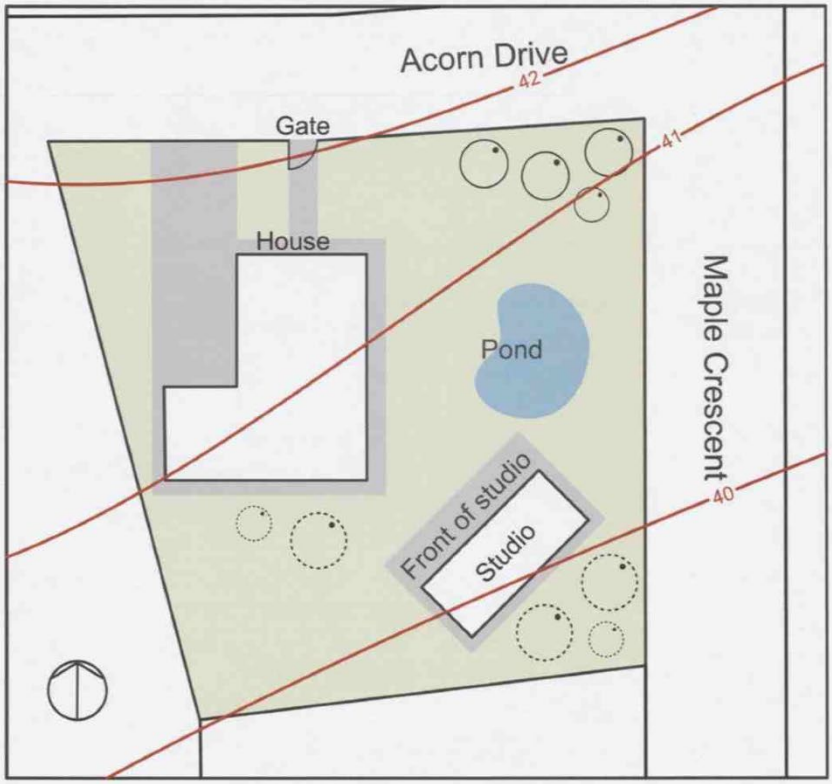
(ii) State the names of **two** input devices that could be used to convert the preliminary graphic into a digital file. 2

flat bed Scanner, Camera

MARKS | DO NOT WRITE IN THIS MARGIN

2. **(continued)**

A site plan showing the proposed position of a garden studio is shown below.



(b) State a scale commonly used for a site plan. 1

1:100

(c) Contours are shown in red on the site plan.

Explain the purpose of contours on a site plan. 1

to show th elevation of th terrain and slopes

MARKS | DO NOT WRITE IN THIS MARGIN

2. (continued)

The front of the garden studio faces the house on the plot.

(d) State the direction the front of the garden studio faces. 1

Northwest

(e) State the direction the pond is in relation to the house. 1

East

The site plan was produced by a designer who works from home.

(f) Describe **two** advantages of remote working. 2

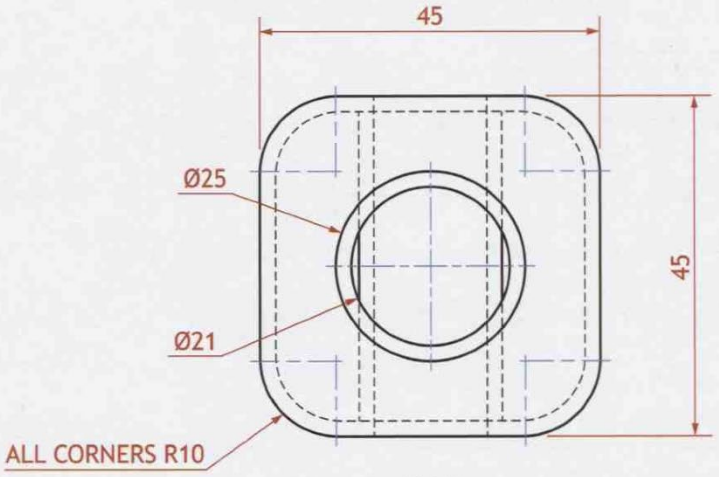
cheaper for the buisress and designer due to no travel or cost for the designer to be there quicker to do with less distraction from work mates

[Turn over

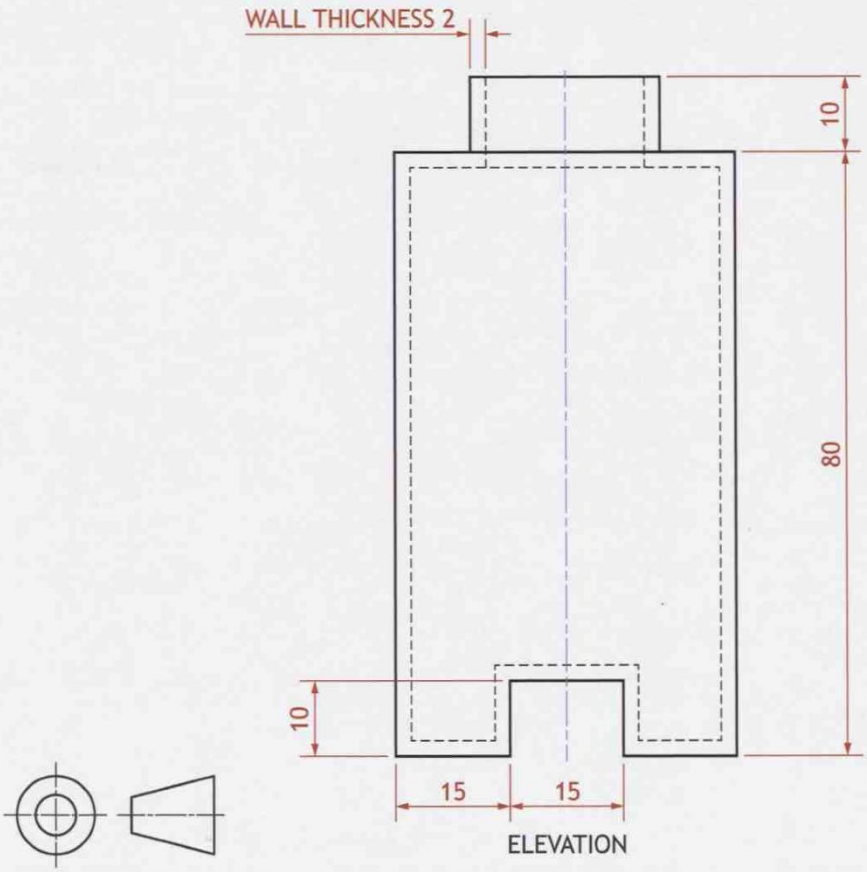
DO NOT WRITE IN THIS MARGIN

3. A company has created a new drinks bottle for their product line. It has two parts: a body and a lid.

An orthographic drawing of the body is shown below.



PLAN



ELEVATION

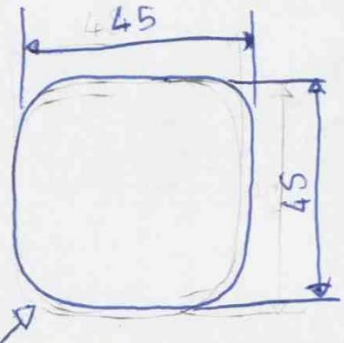
MARKS | DO NOT WRITE IN THIS MARGIN

3. **(continued)**

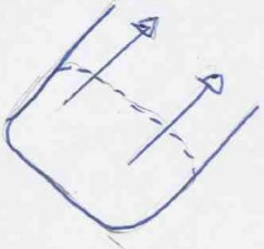
(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the body.

You may use sketches to help support your answer. 6

Step 1
Sceteh out the base shape of the bottle

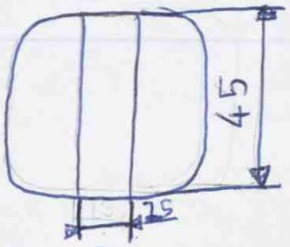


Step 2
Select ad extrude the base 80

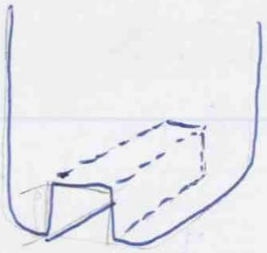


All corners R10

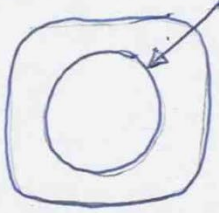
Step3
On the underside of the base Sceteh a Rectangle



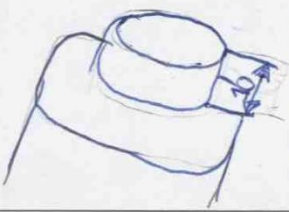
Step 4
Select the rectangle and Subtract 10



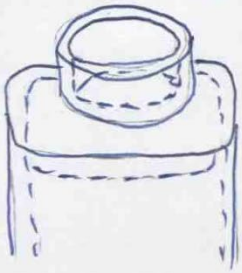
Step 5
on the top of bottle Scetch a circle Ø25



Step6
Selet and extrude 10



Step 7
Selet the top of the bottom and shell it by 2 and removing face

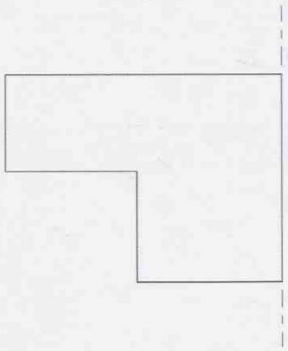


DO NOT WRITE IN THIS MARGIN

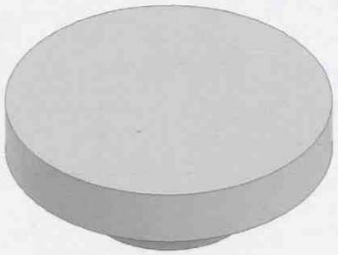
3. **(continued)**

The stages to create the 3D CAD model of the lid are shown below.

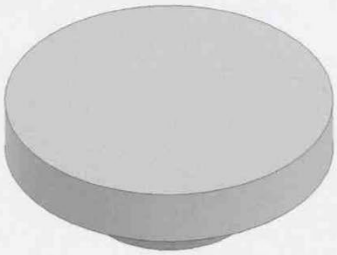
Stage 1



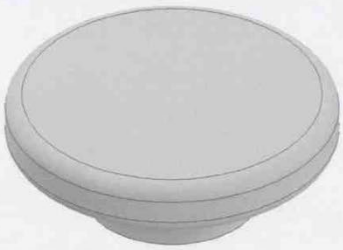
Stage 2



Stage 2



Stage 3



Stage 3



Stage 4



MARKS | DO NOT WRITE IN THIS MARGIN

3. (continued)

(b) (i) State the name of the 3D CAD command used to go from stage 1 to stage 2. 1

Revolve 360° around centre Axis

(ii) State the name of the 3D CAD edit used to go from stage 2 to stage 3. 1

fillet

(iii) State the name of the 3D CAD edit used to go from stage 3 to stage 4. 1

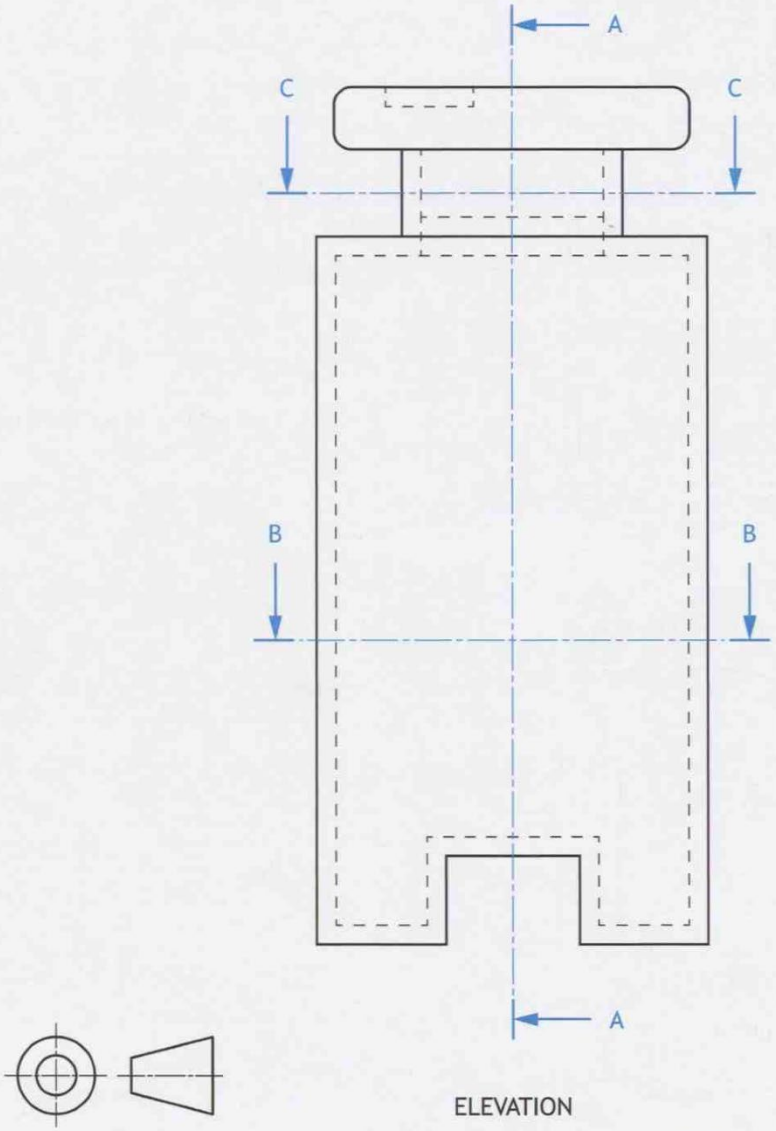
Subtract

[Turn over

DO NOT WRITE IN THIS MARGIN

3. (continued)

The elevation of the assembled bottle is shown below.



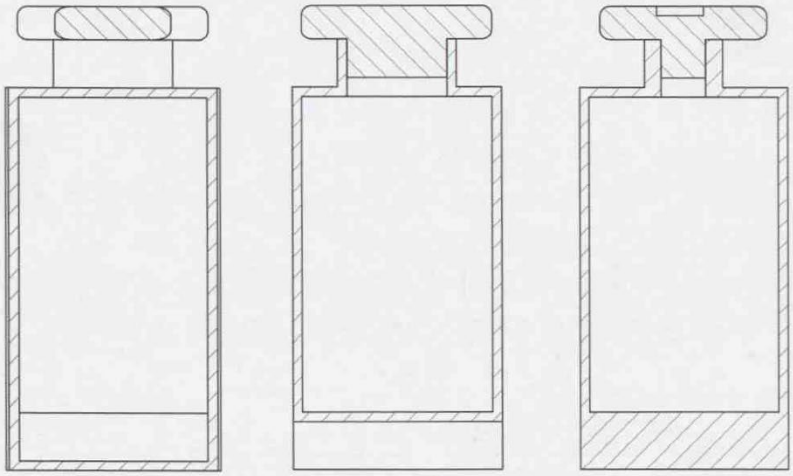
ELEVATION

3. (continued) MARKS DO NOT WRITE IN THIS MARGIN

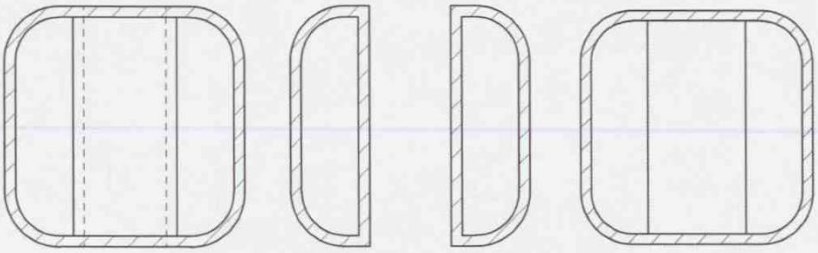
(c) Three sectional views projected from the elevation are shown below.

Identify the correct sectional view for each cutting plane by ticking (✓) a box below.

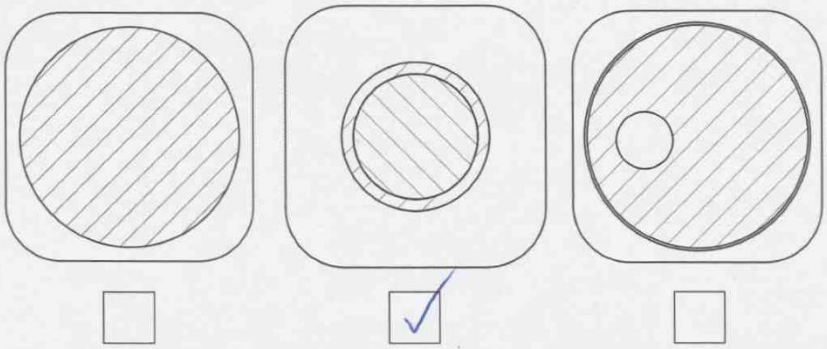
(i) Cutting plane A–A 1



(ii) Cutting plane B–B 1



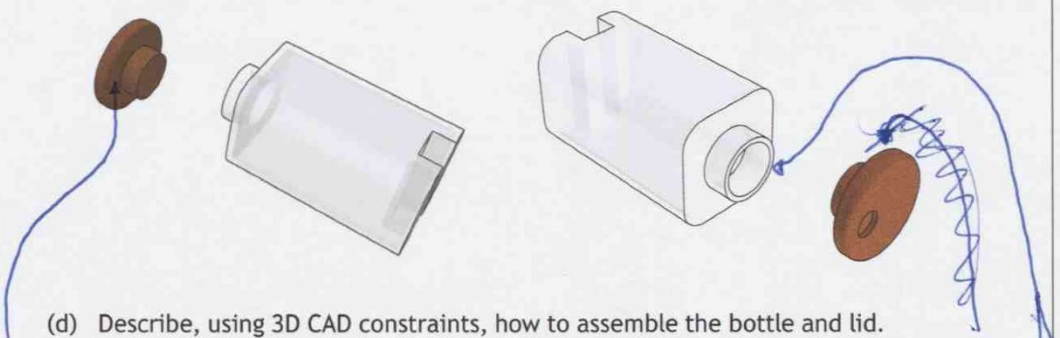
(iii) Cutting plane C–C 1



MARKS | DO NOT WRITE IN THIS MARGIN

3. (continued)

The bottle parts were assembled using 3D CAD assembly techniques.



(d) Describe, using 3D CAD constraints, how to assemble the bottle and lid. 2
You may annotate the graphic shown above to support your answer.

Constrain the lid to centre Axis and then constrain the underside of the bottles lid to the top ring face

MARKS | DO NOT WRITE IN THIS MARGIN

4. A designer has created manual preliminary sketches for a smartphone charging dock.

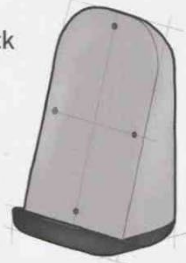
(a) Describe **two** reasons for creating preliminary sketches. 2

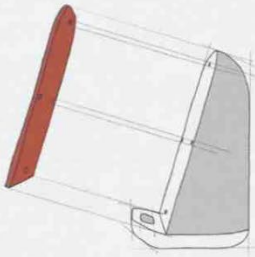
to visually show the idea and what its going look like

can be annotated easily to show later ideas

The designer created more preliminary sketches using digital methods. Two of the preliminary sketches are shown below.

charging dock concept





dock with detachable face plate

(b) Describe **two** advantages of creating digital sketches over manual methods. 2

easy to edit at change, can be shared quicker and easier

(c) The designer displays their work in an online portfolio.

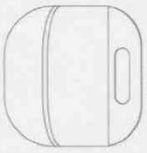
Explain **two** benefits to the designer of having their portfolio published online rather than being printed. 2

cant get damaged, can be easily shown to others and discovred

MARKS | DO NOT WRITE IN THIS MARGIN

4. (continued)

An orthographic drawing and rendered pictorial view of the charging dock are shown below.

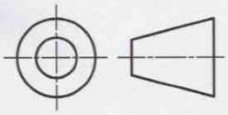


PLAN

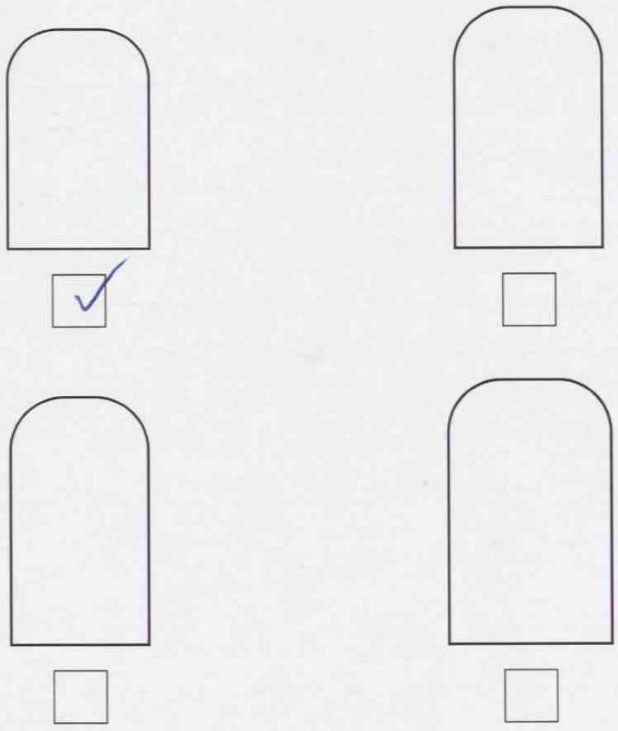


ELEVATION





(d) Identify the correct true shape of the sloping surface A–A by ticking (✓) a box below. 1

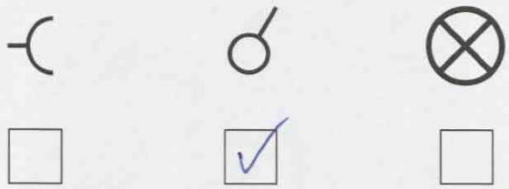


MARKS | DO NOT WRITE IN THIS MARGIN

4. (continued)

(e) The charging dock will be connected to a socket.

Identify the correct British Standard symbol for a socket by ticking (✓) a box below. 1

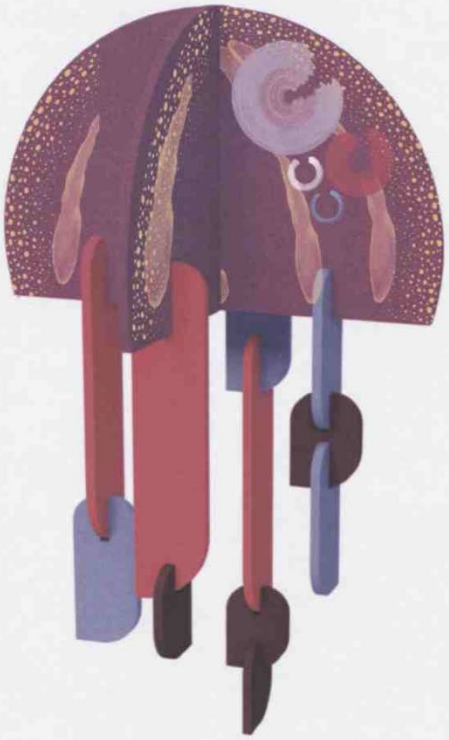


☐ ☑ ☐

[Turn over

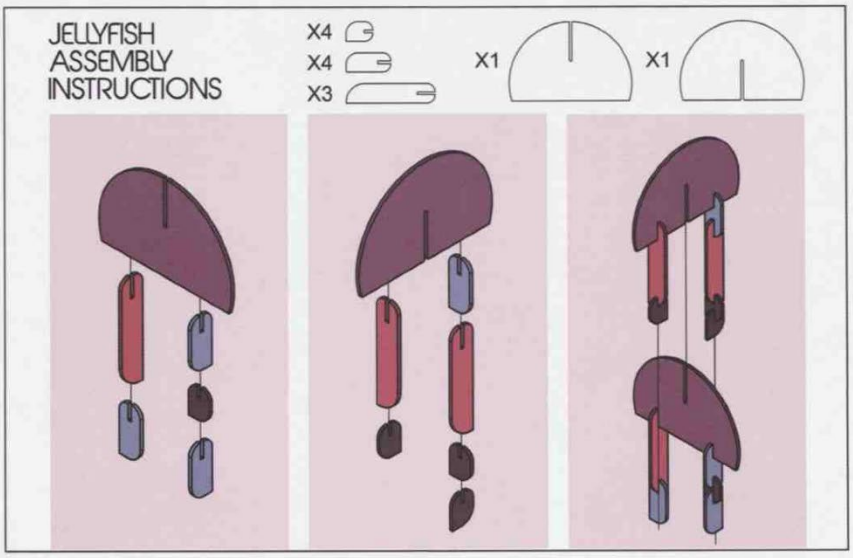
DO NOT WRITE IN THIS MARGIN

5. A manufacturer has produced a range of toys. A 3D CAD illustration of a jellyfish toy is shown below.



jellyfish toy

The assembly instructions for the jellyfish toy are shown below.

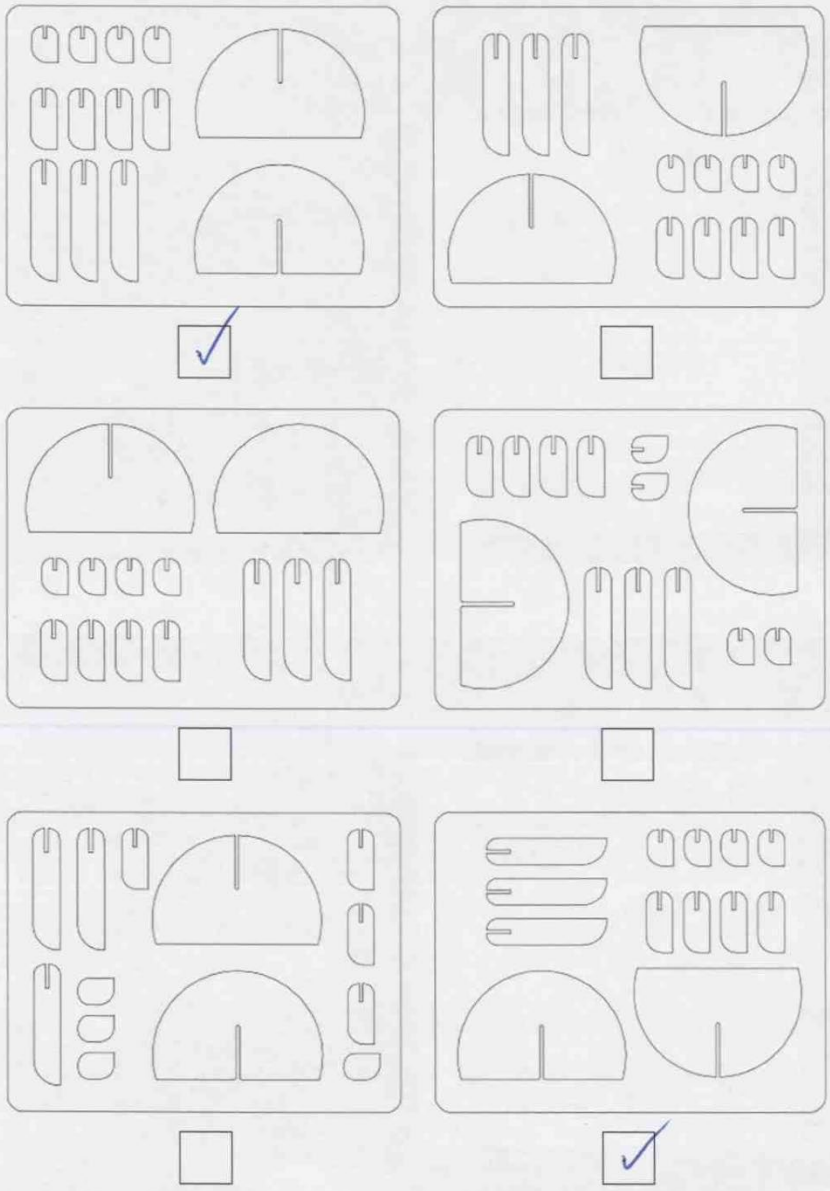


MARKS | DO NOT WRITE IN THIS MARGIN

5. (continued)

(a) The jellyfish toy parts are cut out from one sheet of material. Some layouts are shown below.

Identify the **two** correct layouts by ticking (✓) **two** boxes. 2



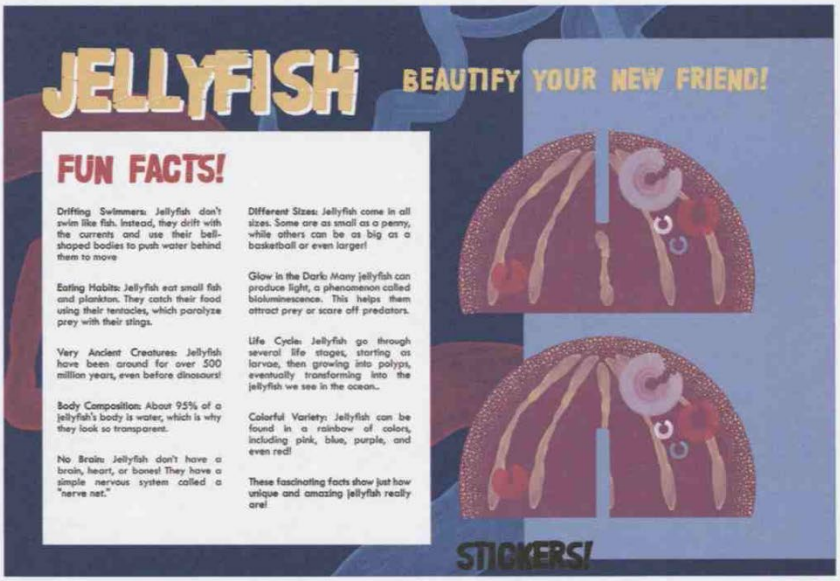
[Turn over

DO NOT WRITE IN THIS MARGIN

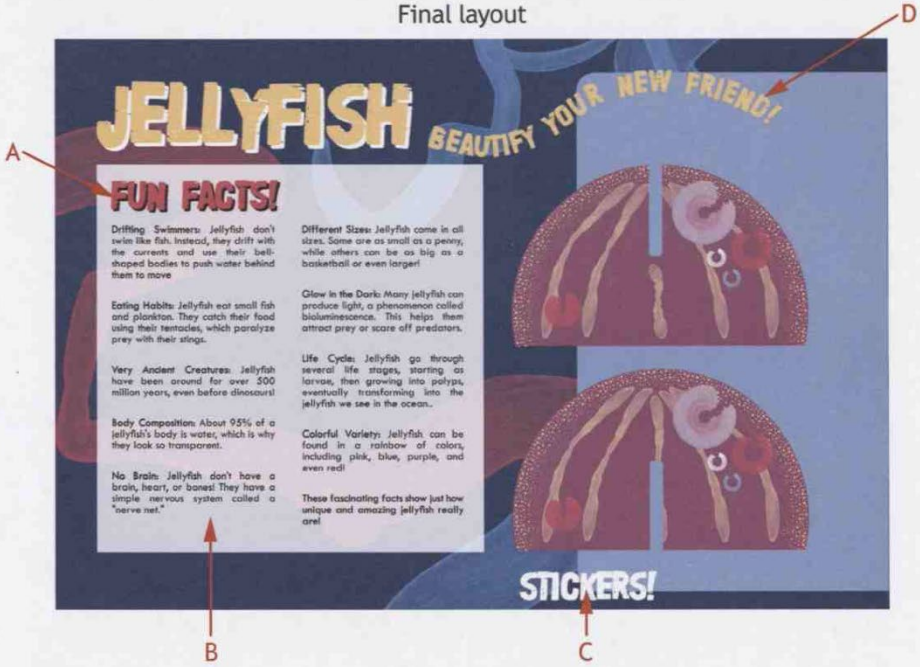
5. (continued)

The jellyfish toy is sold with a sticker fact sheet. The first draft, and final layout of the graphics are shown below.

Draft layout



Final layout



MARKS | DO NOT WRITE IN THIS MARGIN

5. (continued)

(b) State the names of the DTP edits, A to D, applied to the final layout, shown opposite.

Do not refer to scaling or resizing in your answer, and you must give a different answer for each response.

(i) Edit A to the 'fun facts' text: drop shadow 1

(ii) Edit B to the white box: opacity 1

(iii) Edit C to the 'STICKERS' text: colour 1

(iv) Edit D to the 'BEAUTIFY YOUR NEW FRIEND' text: flow text along a path 1

(c) Describe, giving **two** reasons, the effect yellow-orange has on the title. 2

contrasts with the ~~dark~~ dark blue backroud the yellow-orage is bright so advances on the view creating depth

Colours were selected by referring to the colour wheel.

(d) Complete the table below stating whether the colours are primary, secondary or tertiary. 3

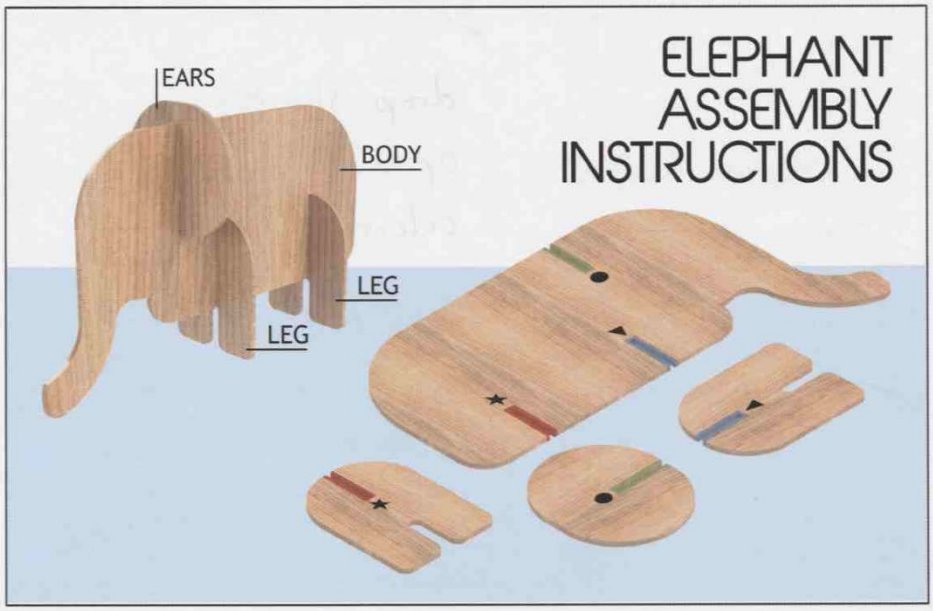
Colour	Primary, Secondary or Tertiary
Purple	Secondary
Blue	Primry
Yellow-orange	tertiary

[Turn over

MARKS | DO NOT WRITE IN THIS MARGIN

5. (continued)

Assembly instructions for an elephant toy are shown below.



(e) Identify **two** features of the assembly instructions that make them easy to understand. 2

colour coded, shows a picture of the finished toy to show what it's supposed to look like

MARKS | DO NOT WRITE IN THIS MARGIN

6. A rendered 3D CAD illustration of a bottle holder is shown below.



(a) State the name of **two** CAD Illustration techniques that have been applied to the model. 2

lighting, material

(b) Explain **one** effect CAD illustration techniques have on 3D models. 1

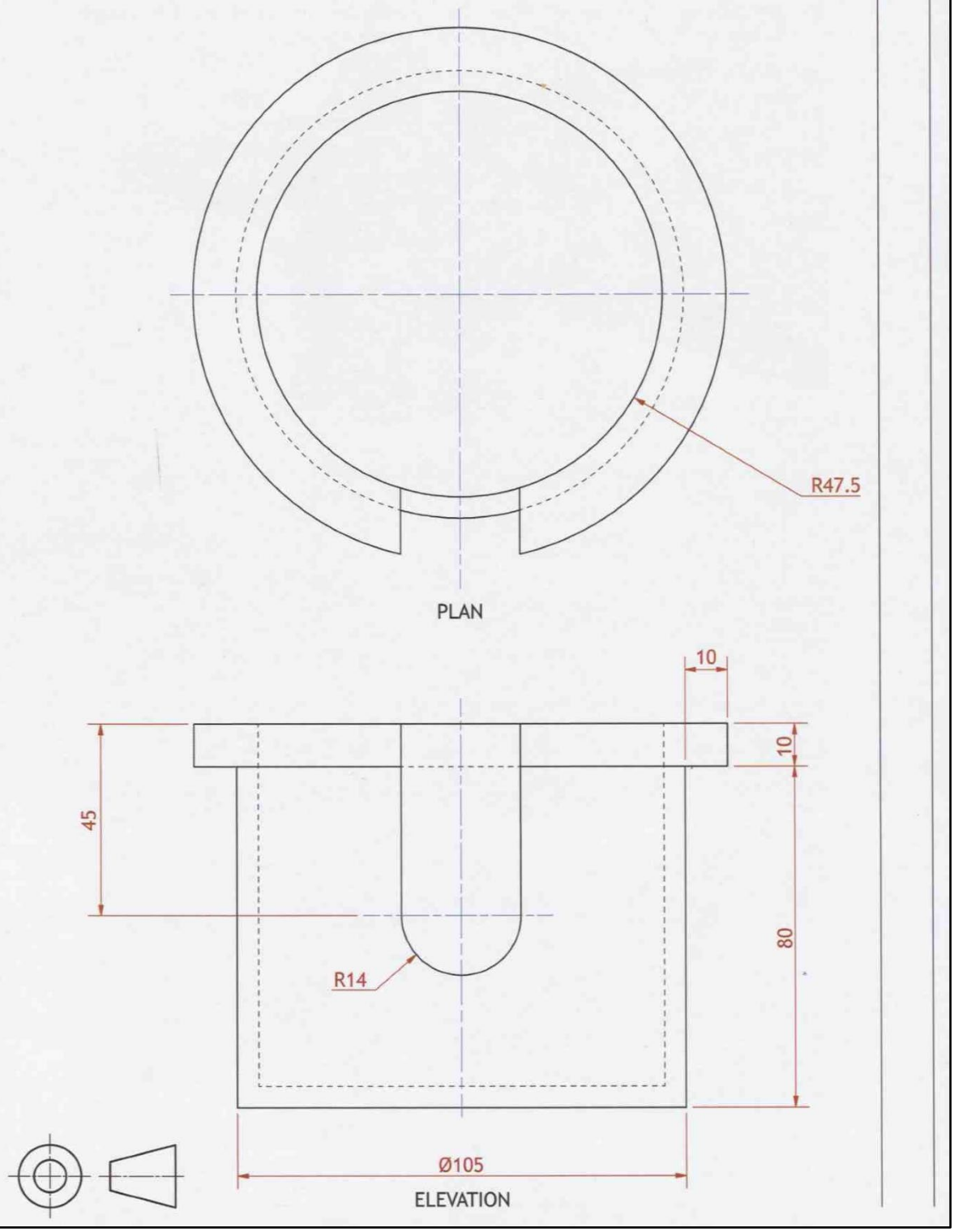
shows the ~~form~~ shape of the model in 3D

[Turn over

6. (continued)

DO NOT WRITE IN THIS MARGIN

An orthographic drawing of one of the bottle holder components is shown below.

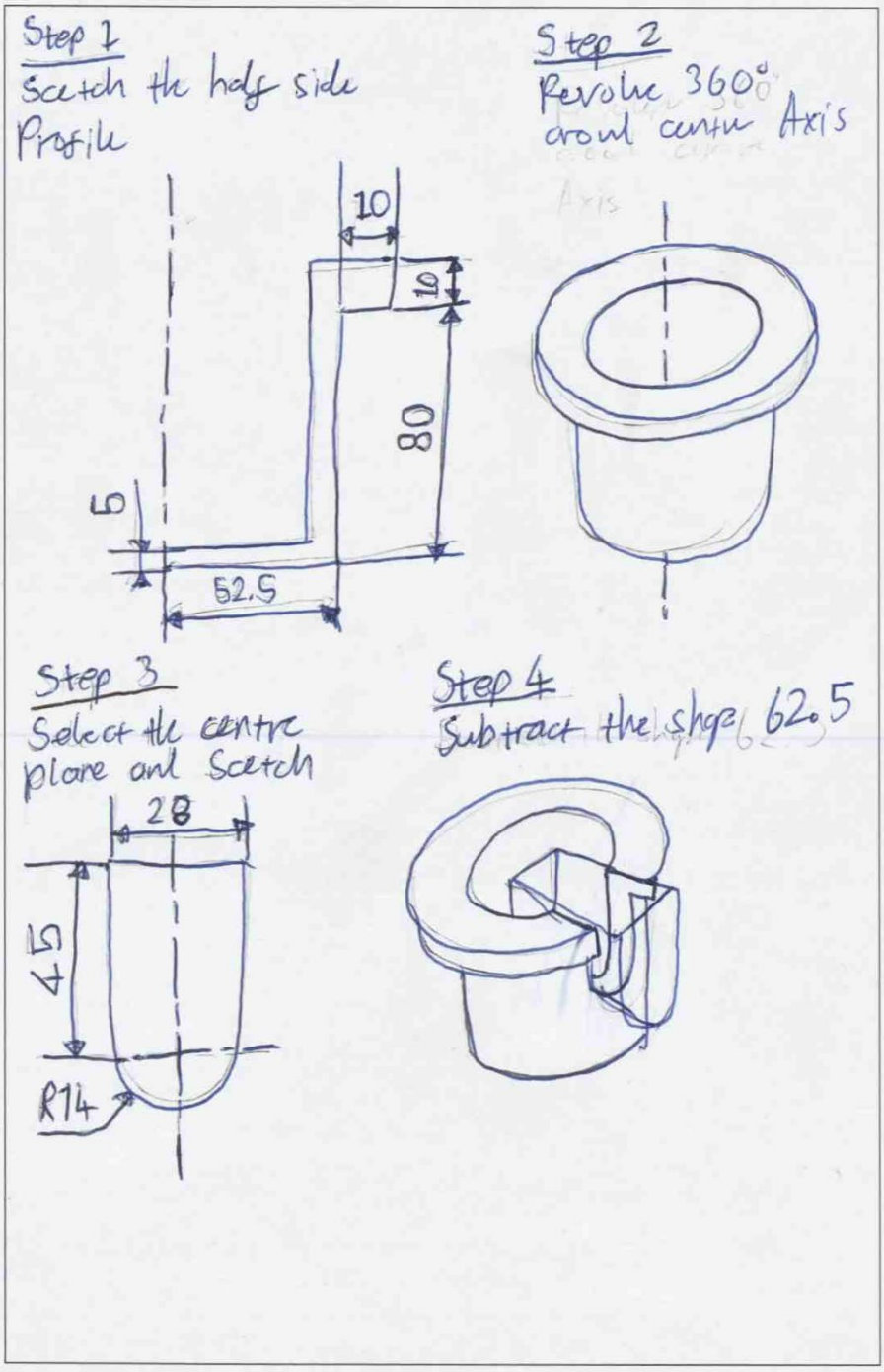


MARKS | DO NOT WRITE IN THIS MARGIN

6. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the bottle holder.

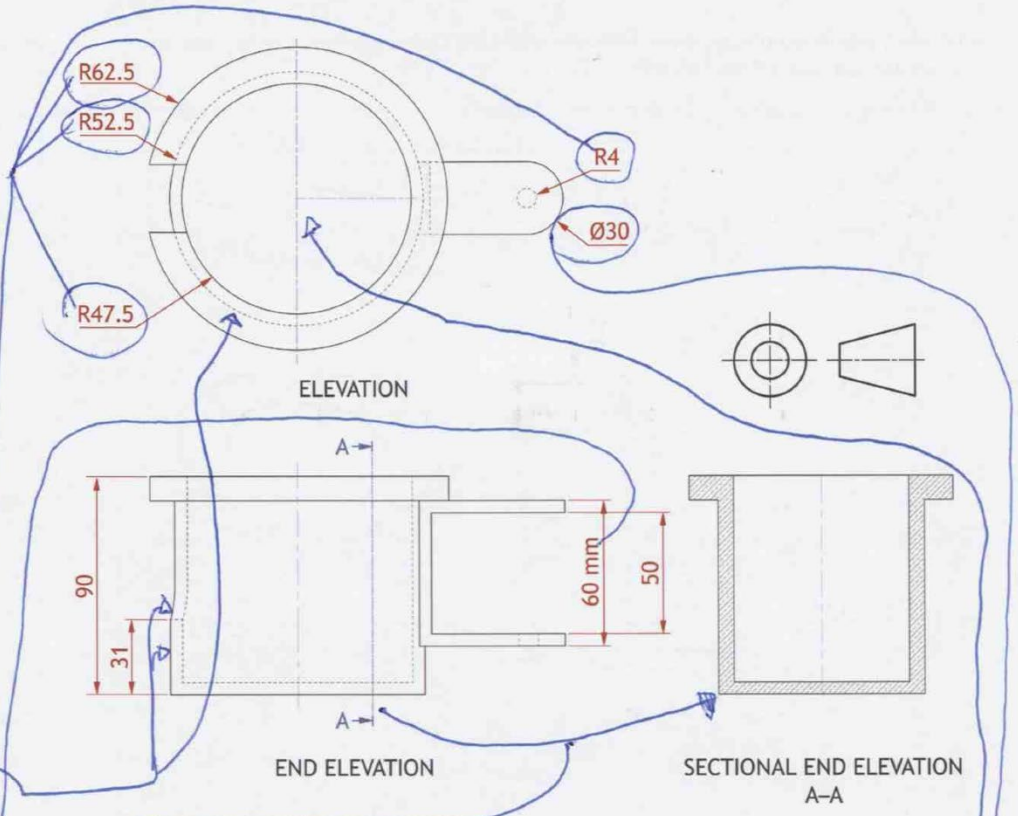
You may use sketches to support your answer. 5



6. (continued)

MARKS | DO NOT WRITE IN THIS MARGIN

An orthographic drawing of the assembled bottle holder is shown below.



The orthographic drawing contains errors that do not conform to British Standards.

(d) Identify **six** errors in the orthographic drawing. 6

You may annotate the drawing to support your answer.

Should be Ø

Should be R

Sectional End elevation missing hiden details

Shows mm

doesn't show the slight outward curve

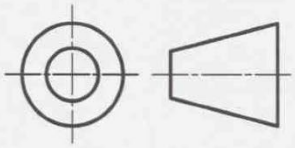
no centre for circle

Lines

MARKS | DO NOT WRITE IN THIS MARGIN

6. (continued)

A title block will be added to the final orthographic drawing. The title block will include the symbol shown below.



(e) (i) Describe the purpose of this symbol. 1

to show the viewing angle

(ii) State **three** other pieces of information that should be included in a title block. 3

measurement

Scale

Date

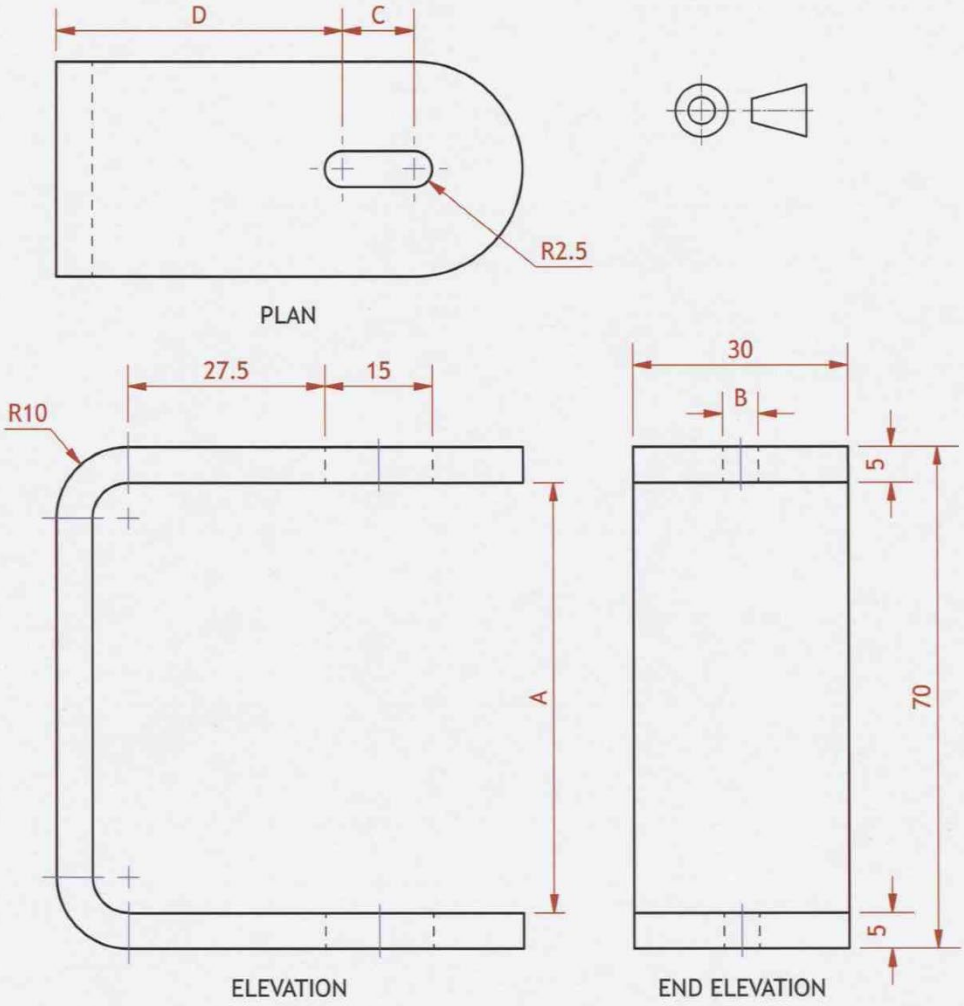
[Turn over

6. (continued)

MARKS

DO NOT WRITE IN THIS MARGIN

An updated orthographic drawing of another component from the bottle holder is shown below.



(f) Calculate the missing dimensions, A to D, from the orthographic drawing. 4

A = 60 mm

B = 5 mm

C = 70 mm

D = 40 mm

[END OF QUESTION PAPER]