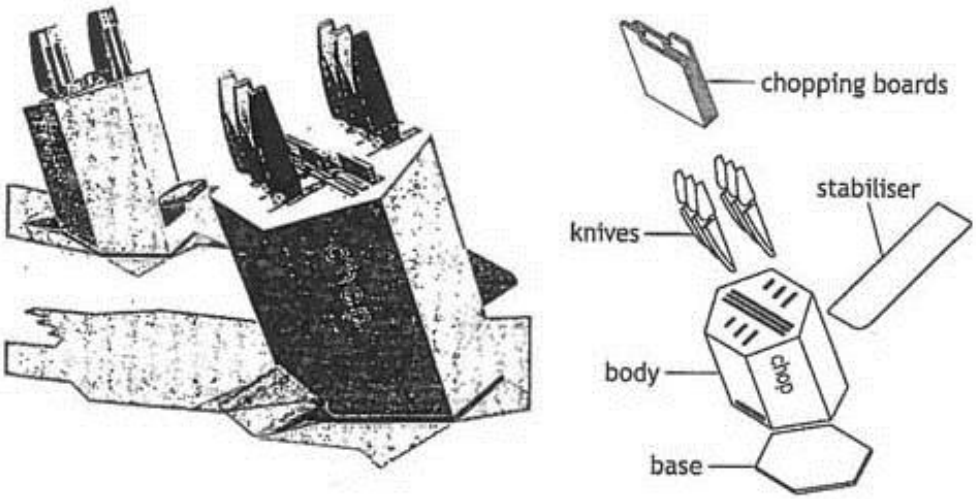
Candidate 1 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.



A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

A 3D CAD model requires less time to make and so would be quicker to have that early on in the process

Mistakes can be corrected with a button click

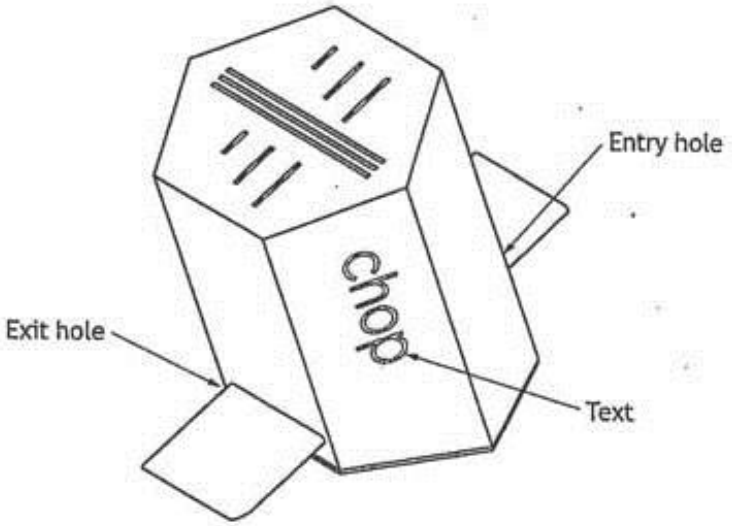
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

That is the combined length of sides A-F of the Body shape

1. (continued)

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

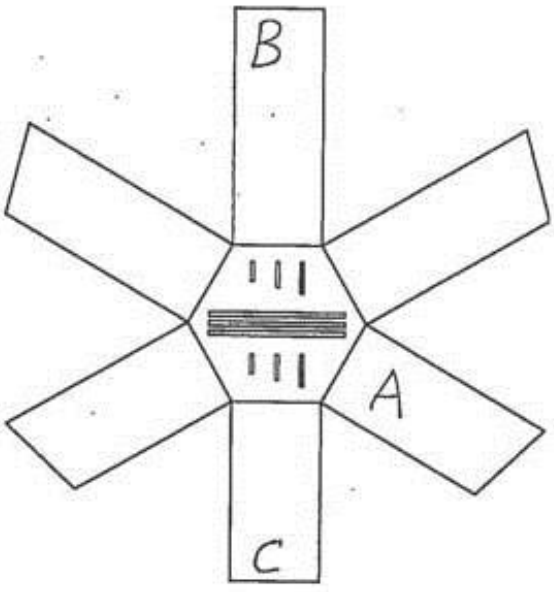


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use A to indicate on the panel where the Text would be located.

Use B to indicate on the panel where the Entry hole would be located.

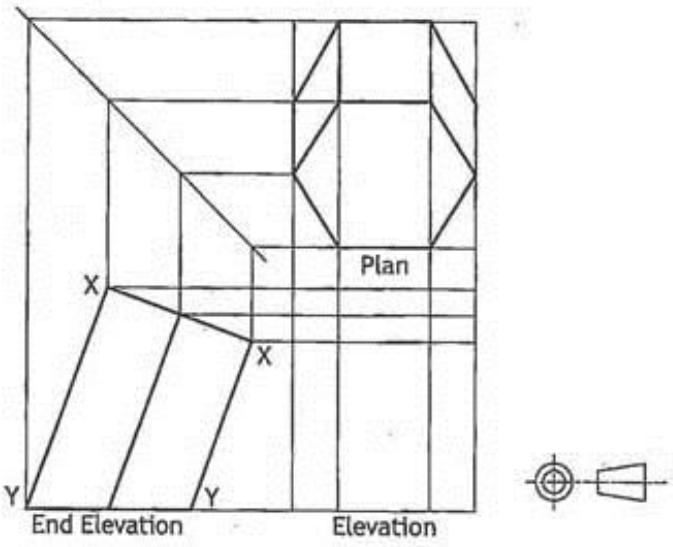
Use C to indicate on the panel where the Exit hole would be located.



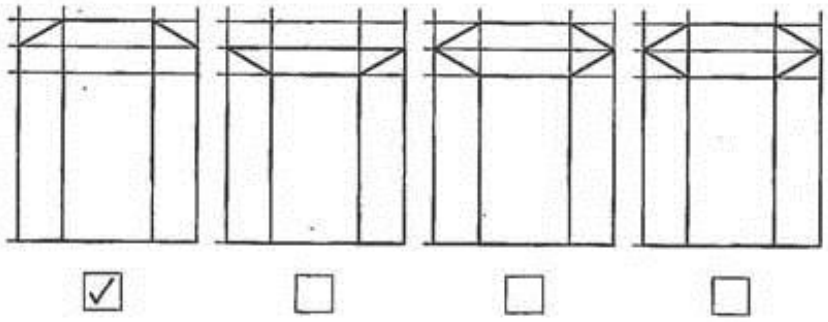
1. (continued)

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.



(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



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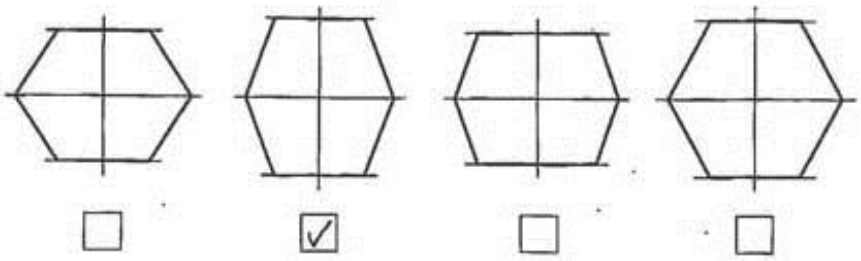
A true shape of surface X–X was required.

(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



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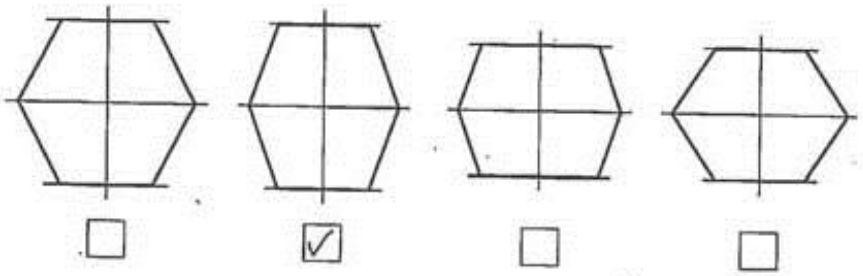
1. **(continued)**

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



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1. **(continued)**

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

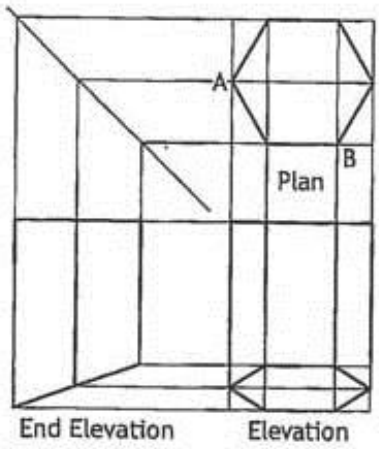
You should refer to the orthographic drawing below.

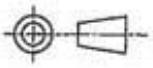
(i) When opened out at generator A, the correct surface development is view. 1

6 *Insert number*

(ii) When opened out at generator B, the correct surface development is view. 1

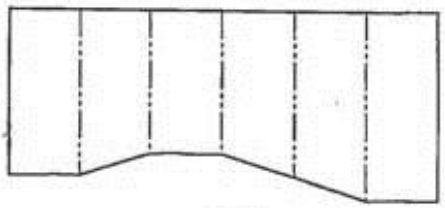
4 *Insert number*



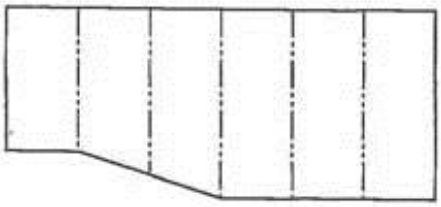


1. (continued)

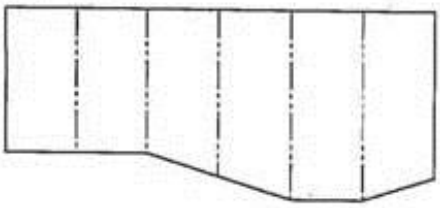
The range of surface developments are show below.



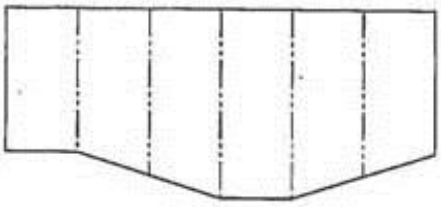
1.



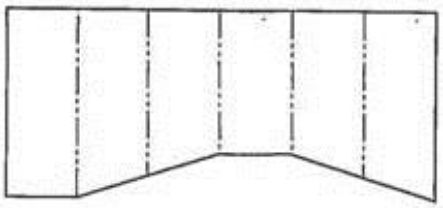
2.



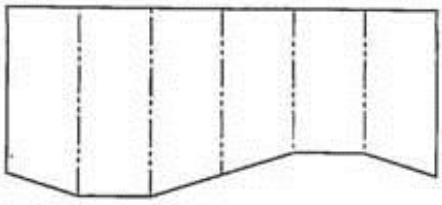
3.



4.



5.



6.

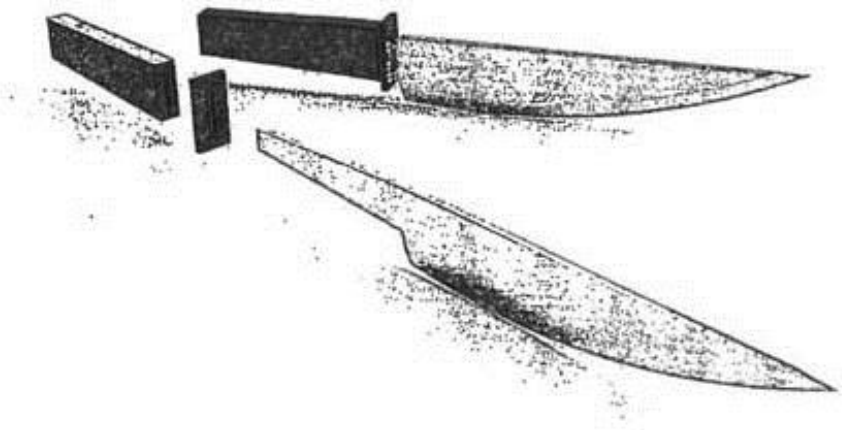
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

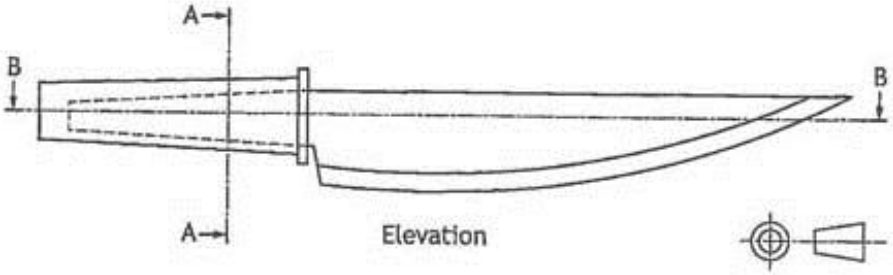
Because if one part is wrong then a number of knife blocks will be scrapped, wasting materials

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

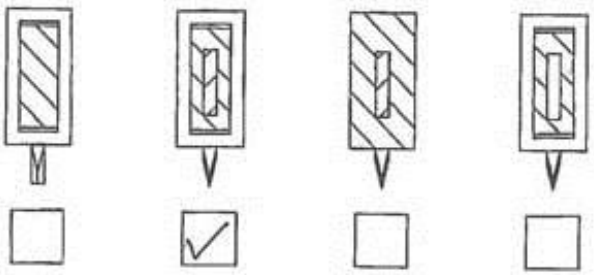


Plan



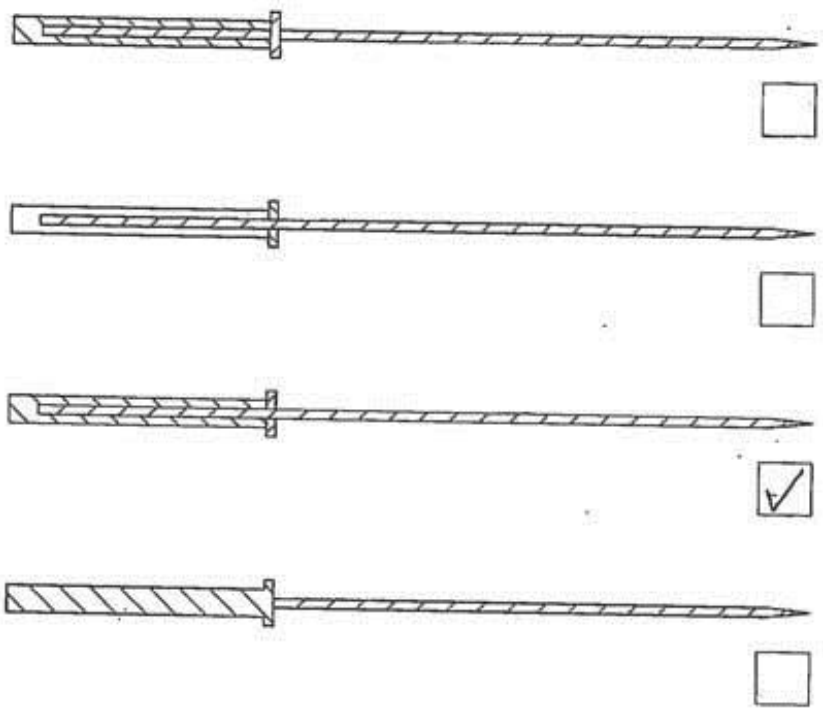
Elevation

(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. 1

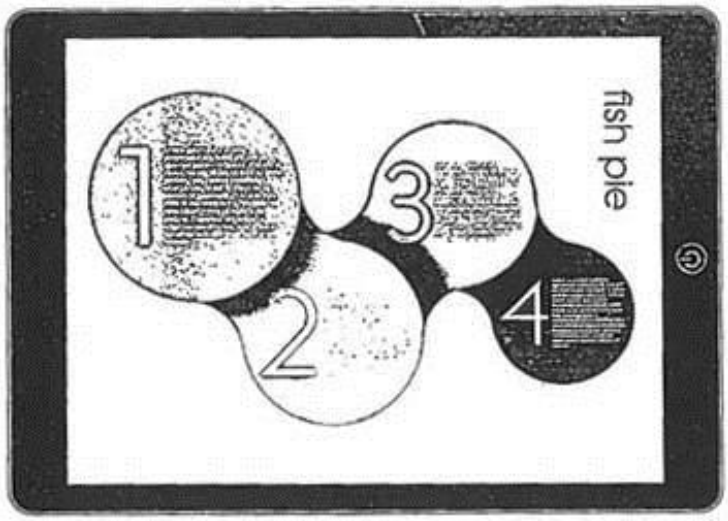


1. (i) (continued)

(ii) Identify the correct sectional plan **B-B** by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the sequence of the recipe shown above. 3

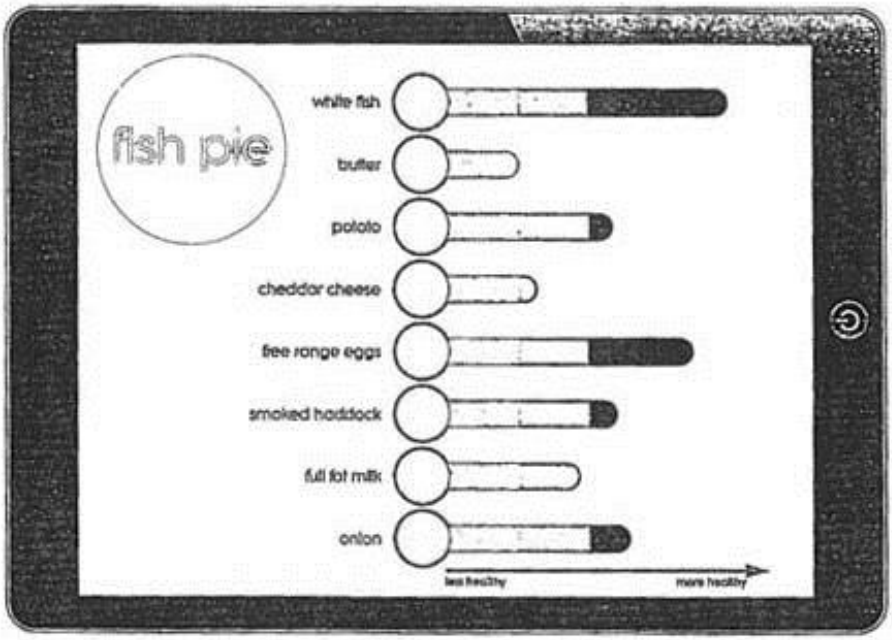
The colours change from cold to warm colours as the sequence goes on
Through 'Depth' each next in the sequence has a shadow going on to the next in the sequence
The steps go from left to right, showing the sequence through direction

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

Paper would be saved through not being mass produced

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

Column Chart

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

The less healthy it is the lighter colour it takes on

2. (continued)

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A**. 1

Mixed Bar Chart

(ii) Explain why this is an appropriate type of informational graphic to present. 1

So that multiple Bars are shown for each, easily showing calories, fat, carb and more

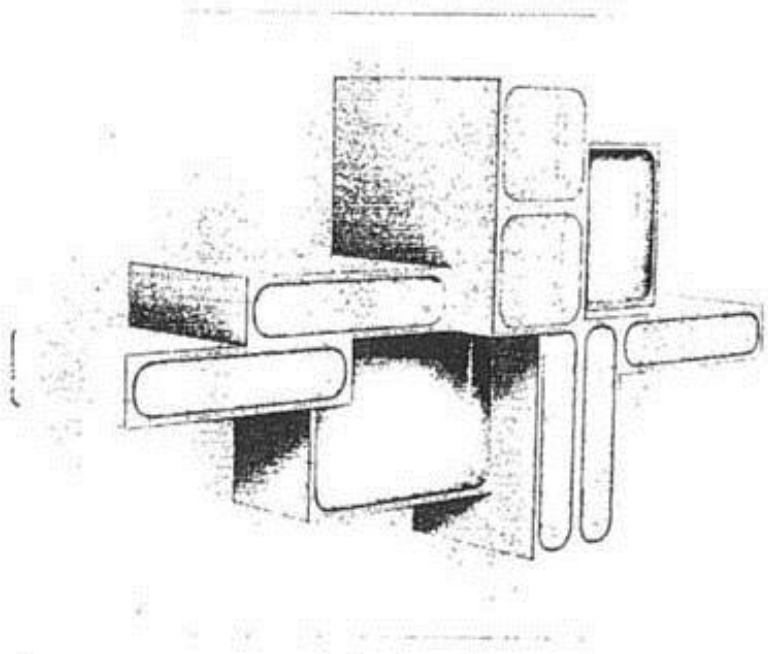
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B**. 1

Pie Chart

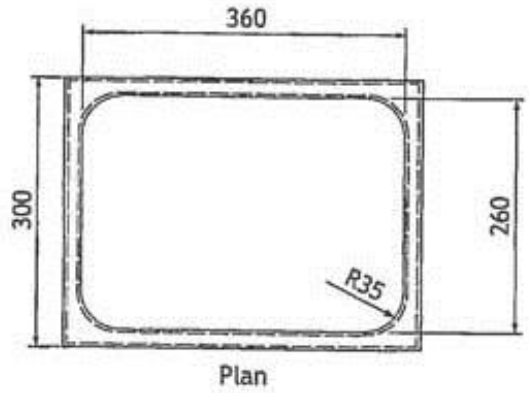
(ii) Explain why this is an appropriate type of informational graphic to present. 1

Pie Charts are very simple to see what percentages are higher just by looking, so it would be easy to understand

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

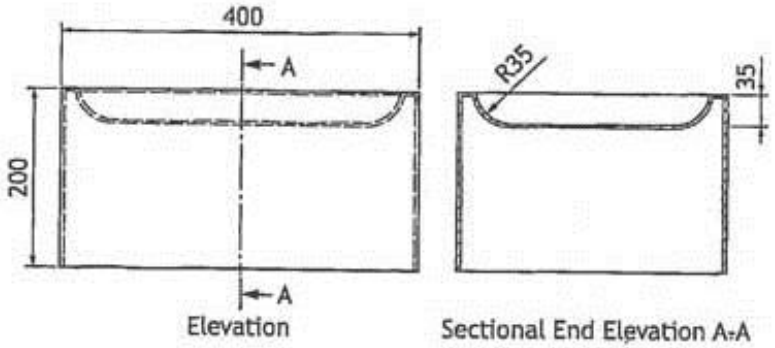


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm

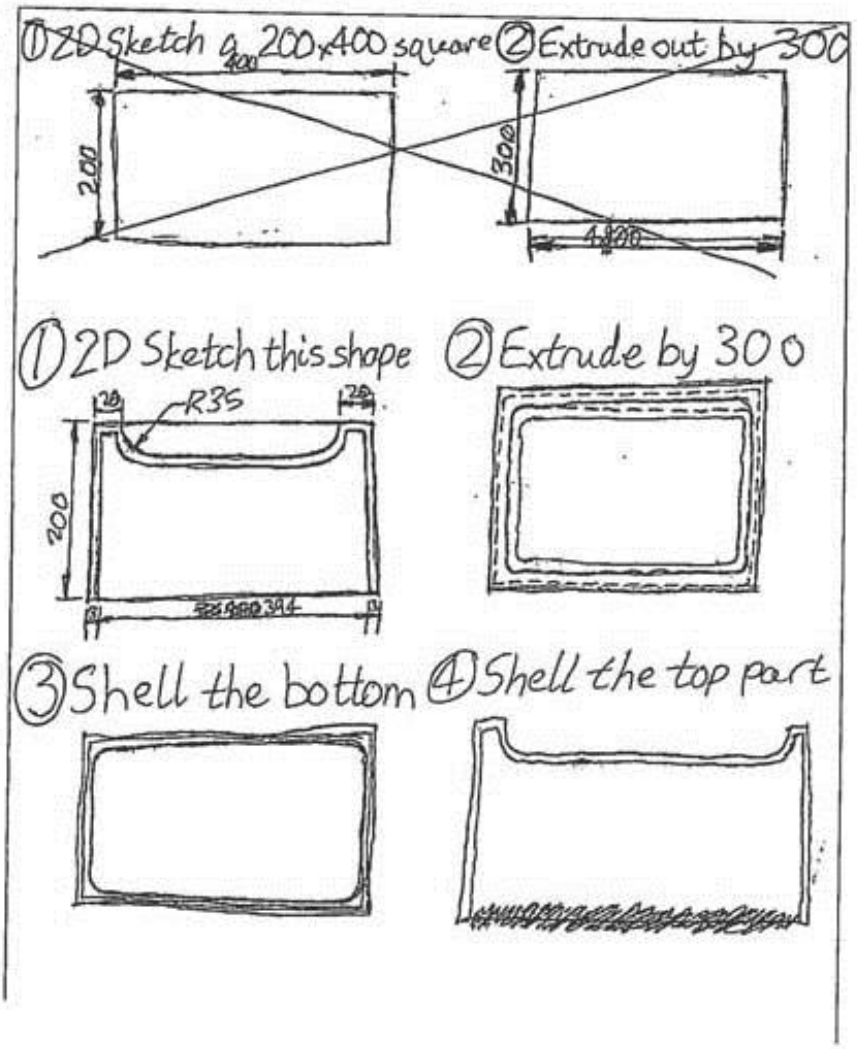


Elevation

Sectional End Elevation A-A

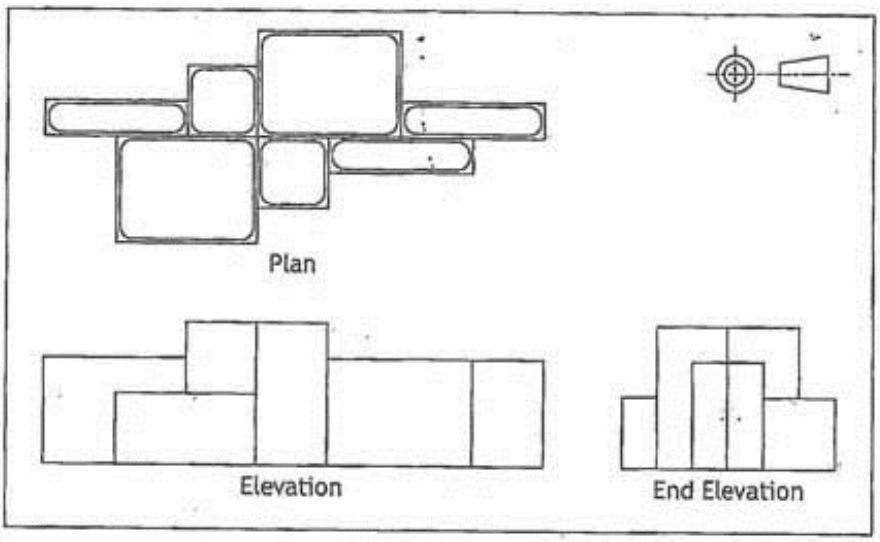
3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. 6



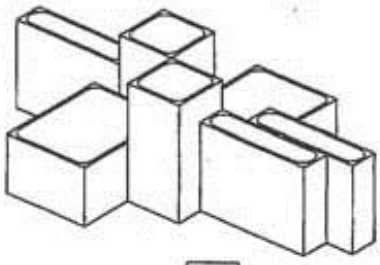
3. (continued)

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.



3. (continued)

(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement in the orthographic assembly drawing shown. 2



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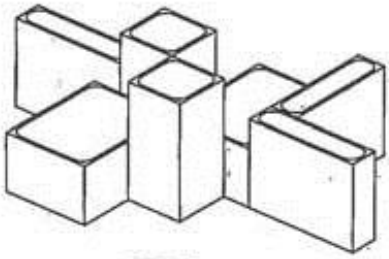

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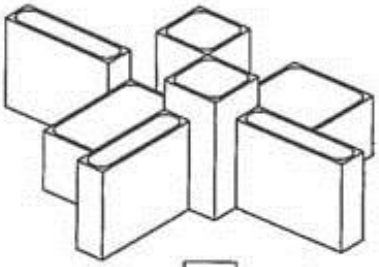

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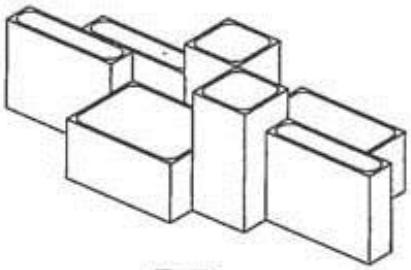

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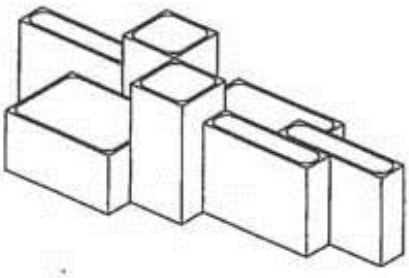

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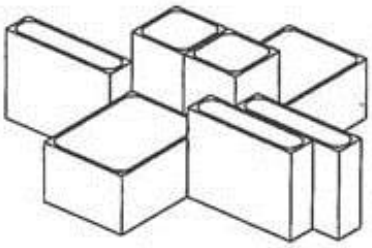

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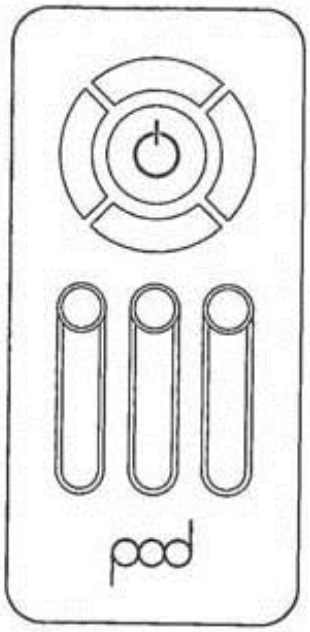
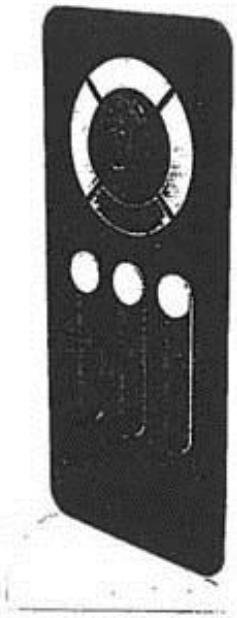
3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

Because it's a simple drawing that makes it more clear what everything is. The 3D CAD Model looks more complex and harder to produce

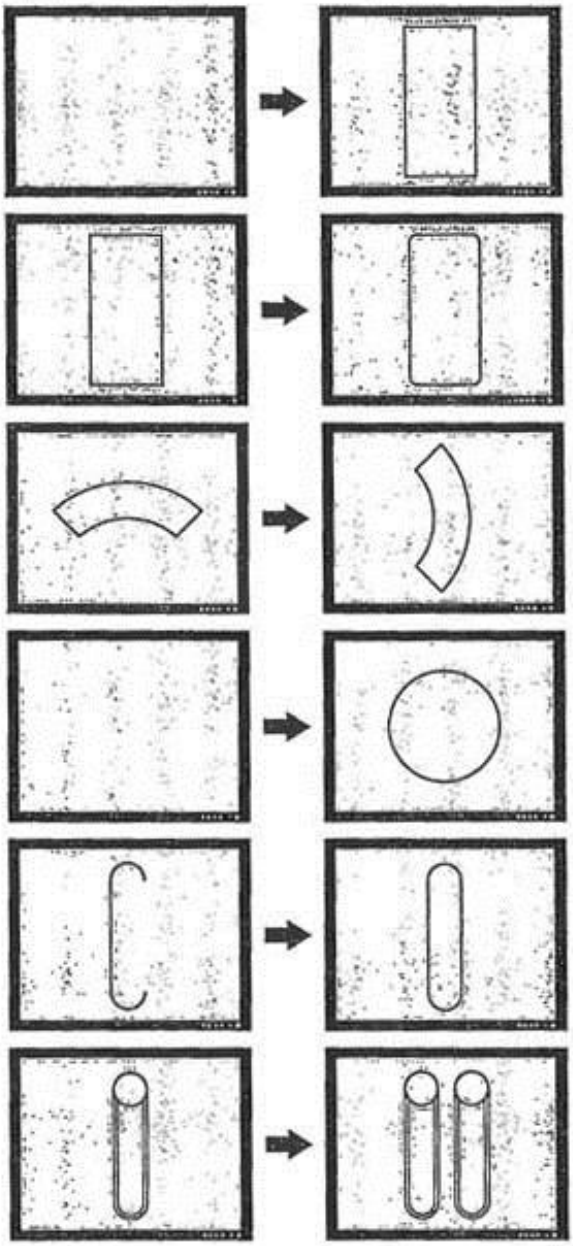
(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

The 3D CAD Model is 3D so you can see if any parts are sticking out, whereas 2D is flat You get more detail on a 3D CAD Model, such as colour, than you can on 2D CAD Models

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the single CAD tool used in each case. 6



(i) Tool used
Line Tool

(ii) Tool used
Champher

(iii) Tool used
Rotate

(iv) Tool used
2D Sketch Circle

(v) Tool used
_____

(vi) Tool used
Duplicate

3. (continued)

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

Shows the centre of any circular elements

(ii) A continuous thick line 1

Shows the outline of the shape

(iii) A long dash dotted thin line, thick at ends. 1

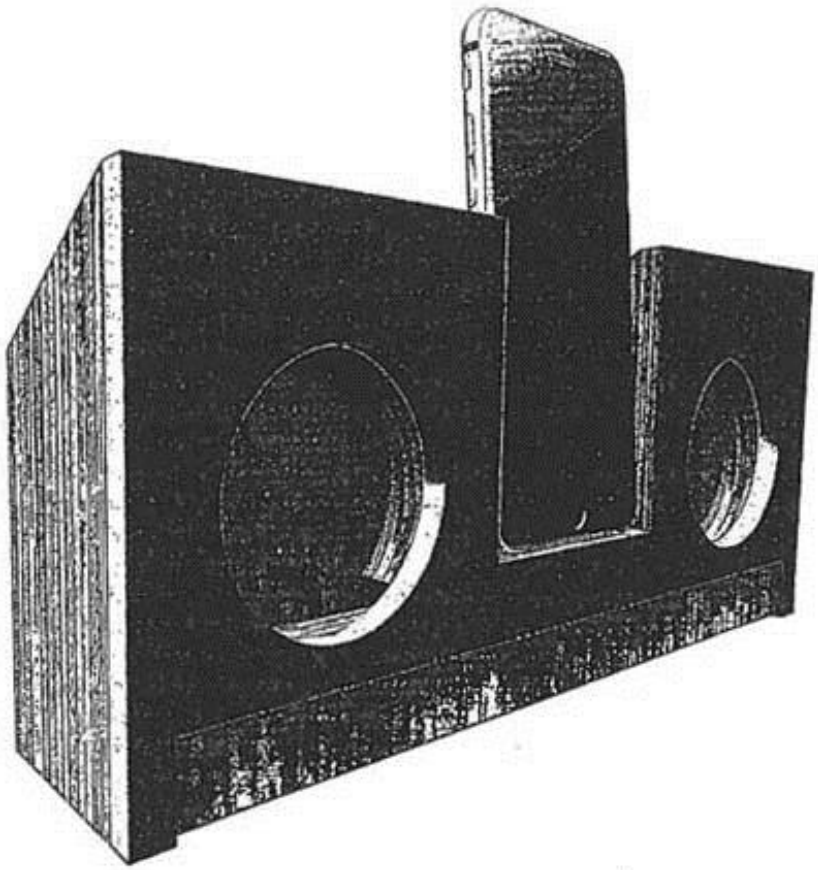
Shows where the object will be hatched

The 2D CAD drawings are to be drawn using a scale.

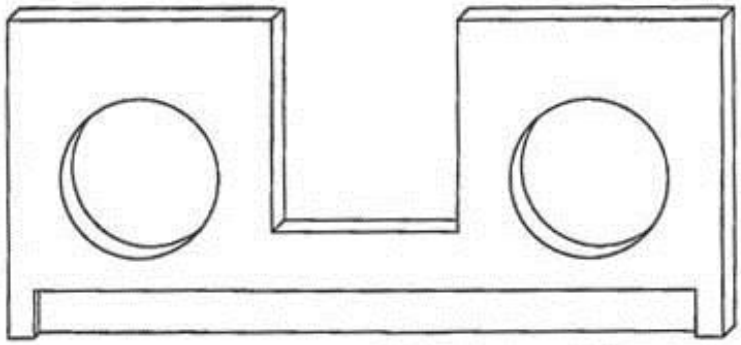
(g) Explain what is meant by the term scale 2:1. 1

The drawing is 2x bigger than it actually is

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



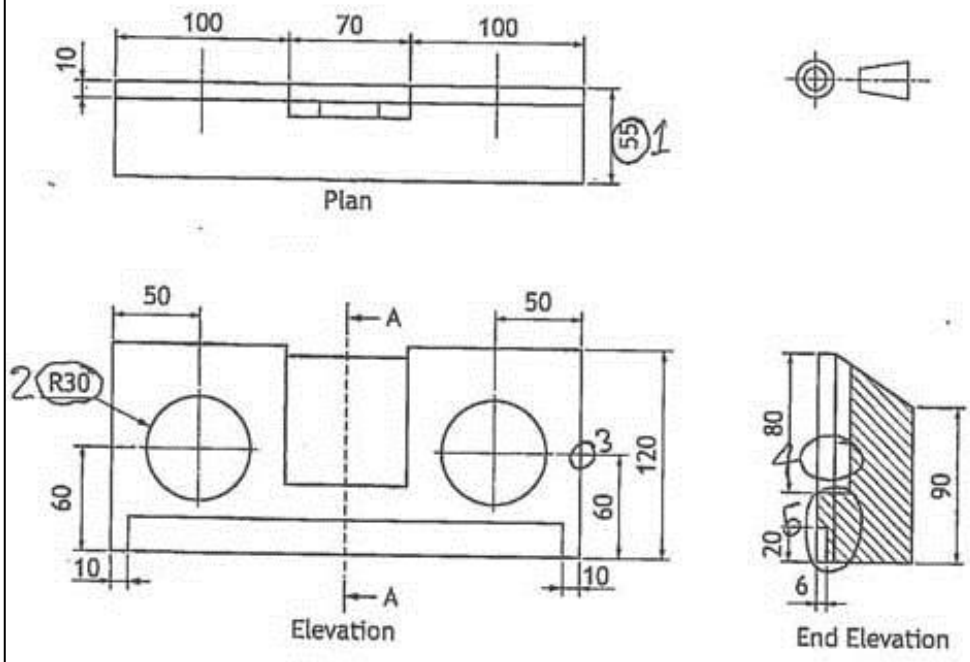
A pictorial view of one of the speaker components is shown below.



(a) State the type of pictorial view shown above. 1

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

(b) State the five errors found in this drawing. 5

You may annotate the orthographic drawing to support your answer.

1 The 55 should be on the other side of the line

2 This should be a dianeter

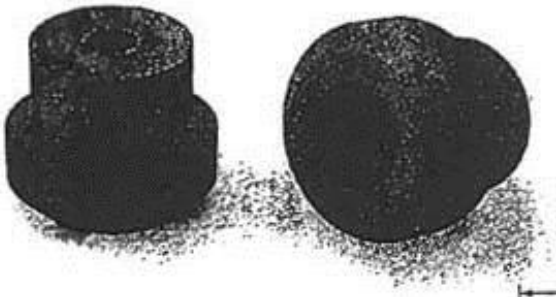
3 Dimension Lines shouldn't touch the object

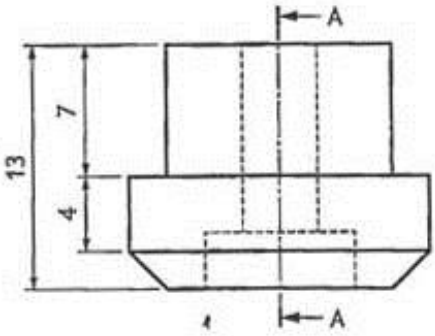
4 There should be a Centre Line here

5 These are different materials so the Hatching Lines should be different

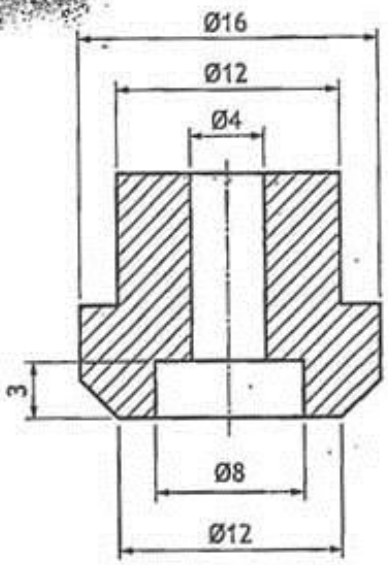
4. (continued)

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation

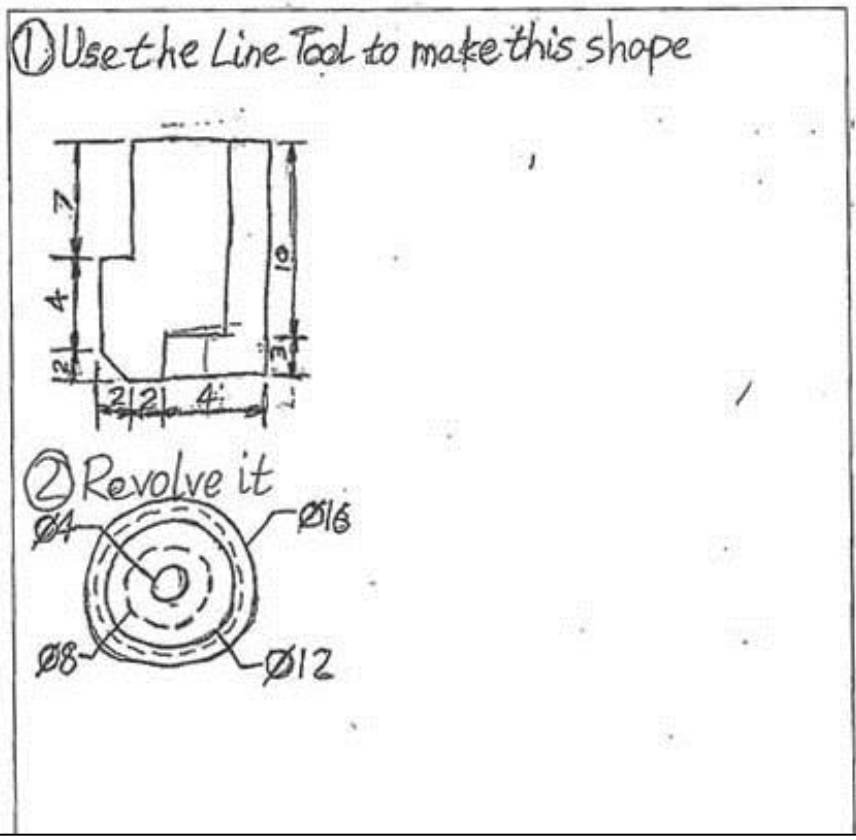


Sectional End Elevation A-A

4. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

You may use sketches to support your answer.



4. (continued)

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

People can see how they're made
People can make some for themselves

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

So that anyone can understand it

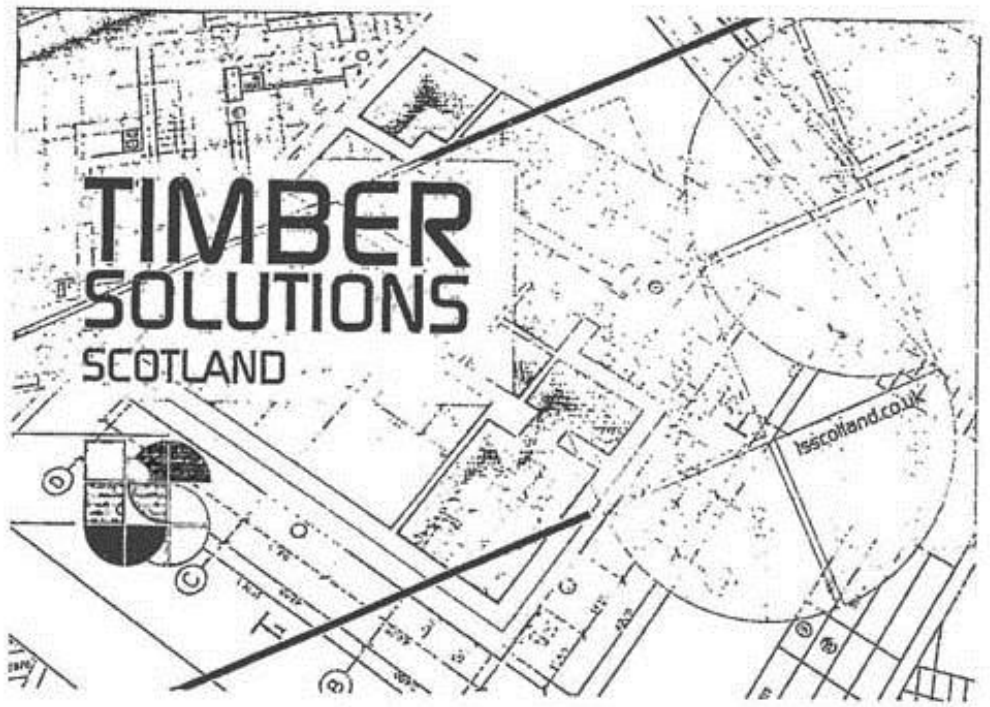
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views To show the inside of a product or part 1

(ii) Assembly drawings To show each part and how they fit together 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

(ii) Dominance 2

Having "TIMBER SOLUTIONS SCOTLAND" be so big lets it stand out more.

(iii) Colour 2

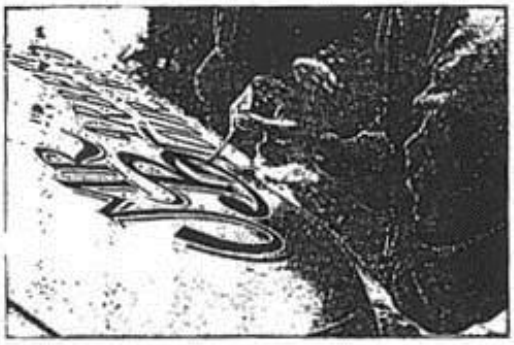
By having "TIMBER SOLUTIONS SCOTLAND" in a different colour it makes it stand out

(iv) Unity 2

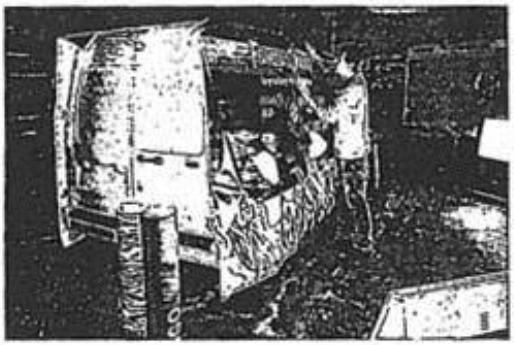
[Turn over

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.



Traditional painting technique



Modern printed technique

(b) Describe two advantages to the client of modern printing techniques over traditional painting techniques. 2

As the modern technique shown is bigger it's much more noticeable and stands out more than the traditional technique
The modern technique is easier to take off and replace when new events or sales start

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.

The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

They could change the colours so the text is easier to see

(ii) *The large column of extended text makes it difficult to read* 1

They could make the text bigger so it can be read easier

(iii) *The bottom image would look better without the sky in the background* 1

They could crop the sky out the image

(iv) *The body text is too close to the edge of the paper* 1

They could move the text away from the edge

6. (continued)

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

It looks more modern, like the '[redacted]' idea 'Future of Architecture'

It looks more appealing to a younger crowd

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

Holding 'Shift' will equally resize the width and length together

6. (continued)

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines**.

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

The layout looks more neat and organised

There's a better sense of where everything should go

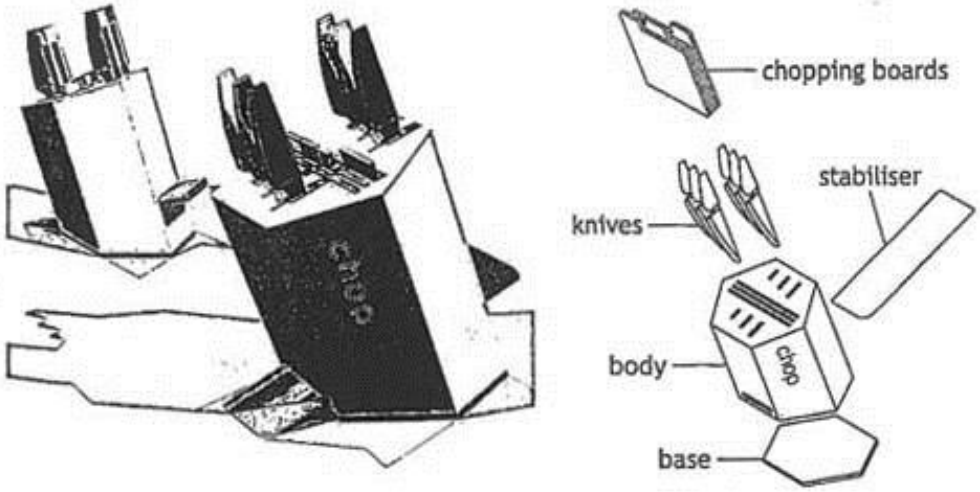
[END OF QUESTION PAPER]

Candidate 2 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.



A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

- It can be put in a simulation to see how it looks and works in real life situations
- It can be sent electronically to colleagues and business partners

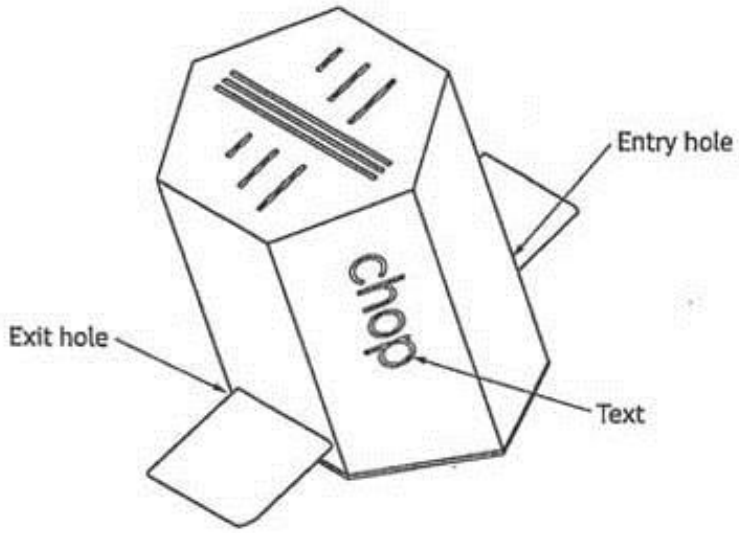
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

across flats

1. (continued)

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

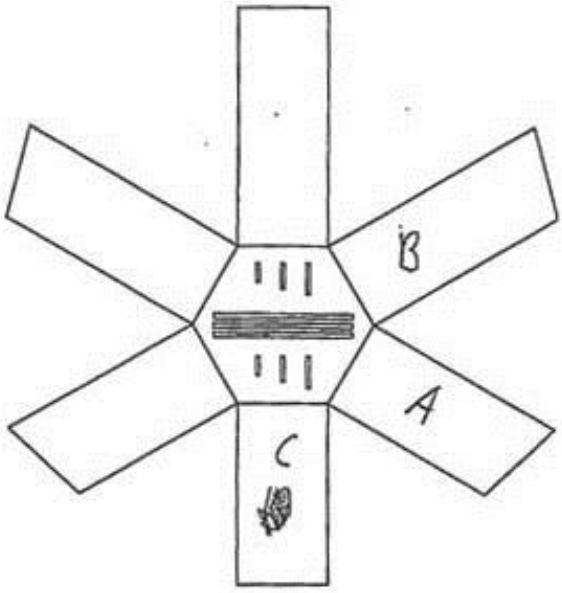


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use A to indicate on the panel where the Text would be located.

Use B to indicate on the panel where the Entry hole would be located.

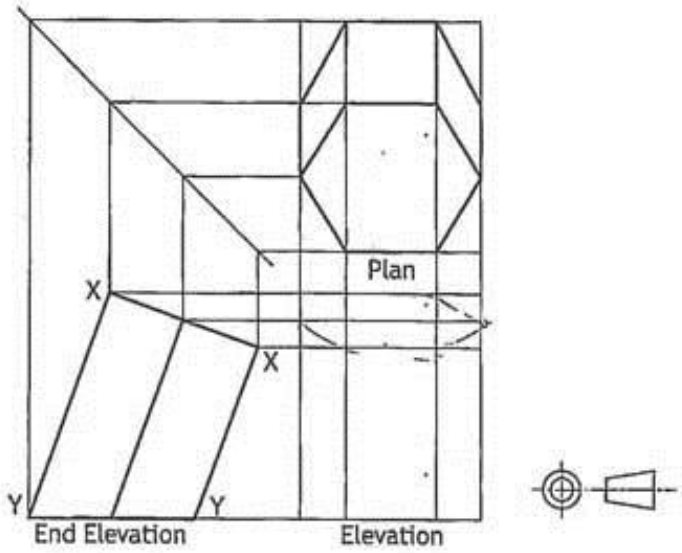
Use C to indicate on the panel where the Exit hole would be located.



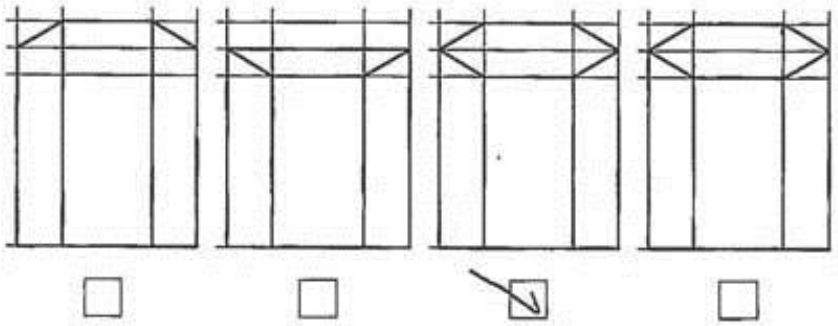
1. (continued)

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

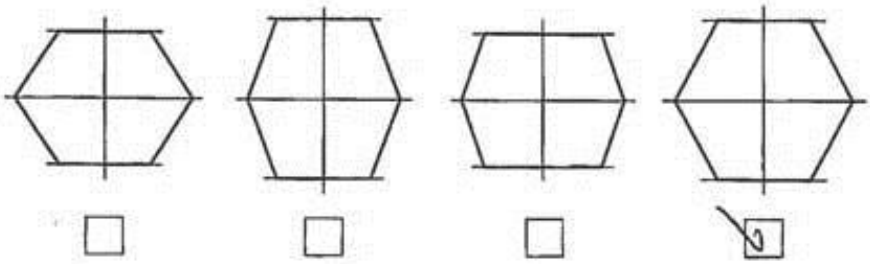


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



A true shape of surface X–X was required.

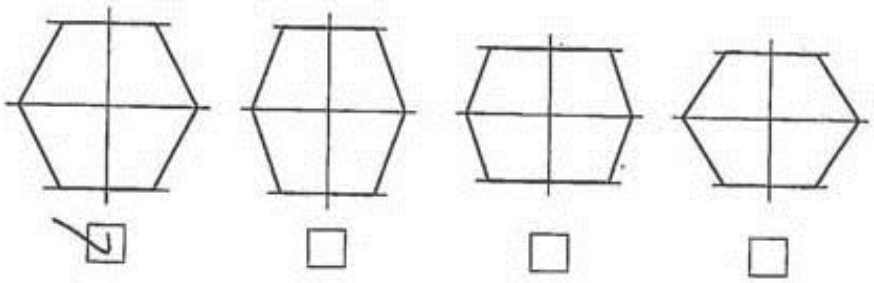
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. **(continued)**

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

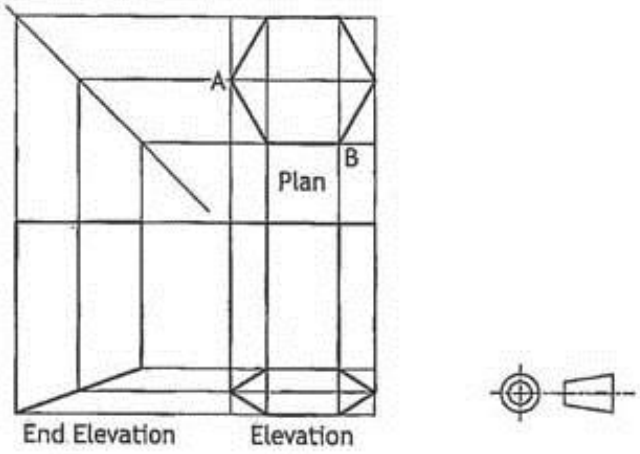
You should refer to the orthographic drawing below.

(i) When opened out at generator A, the correct surface development is view. 1

[6] *Insert number*

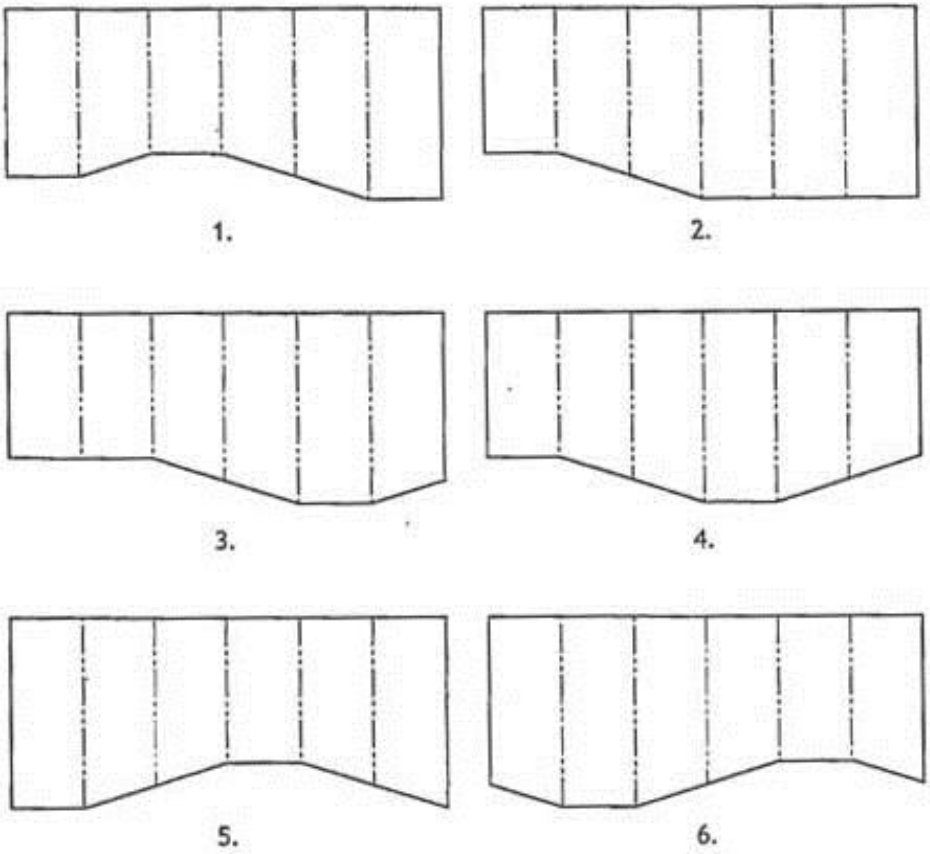
(ii) When opened out at generator B, the correct surface development is view. 1

[4] *Insert number*



1. (continued)

The range of surface developments are show below.



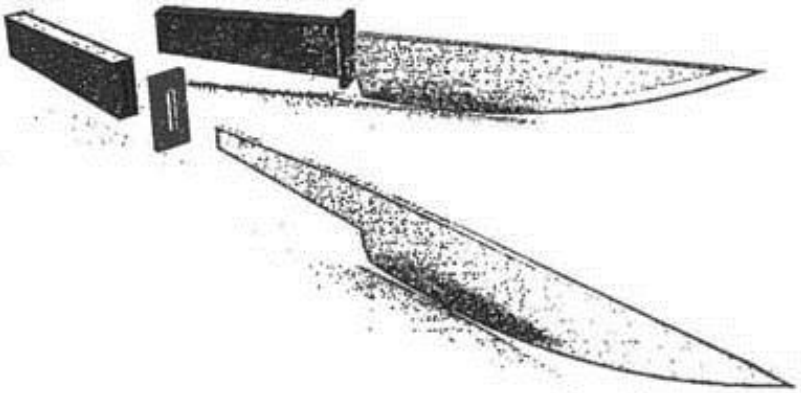
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

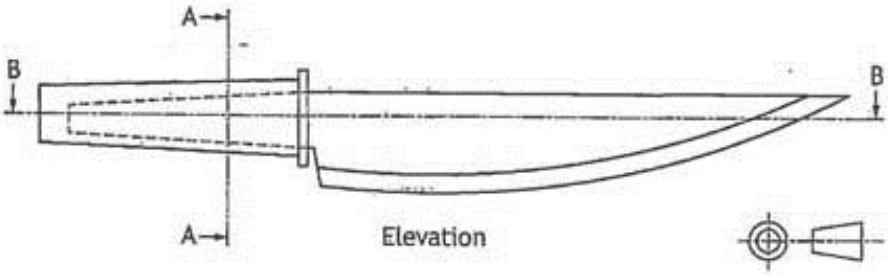
Fitting as many parts on one sheet of material as possible would reduce waste.

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

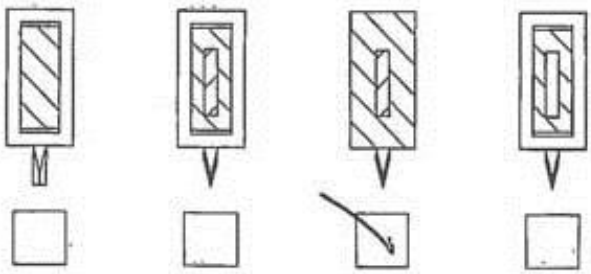


Plan



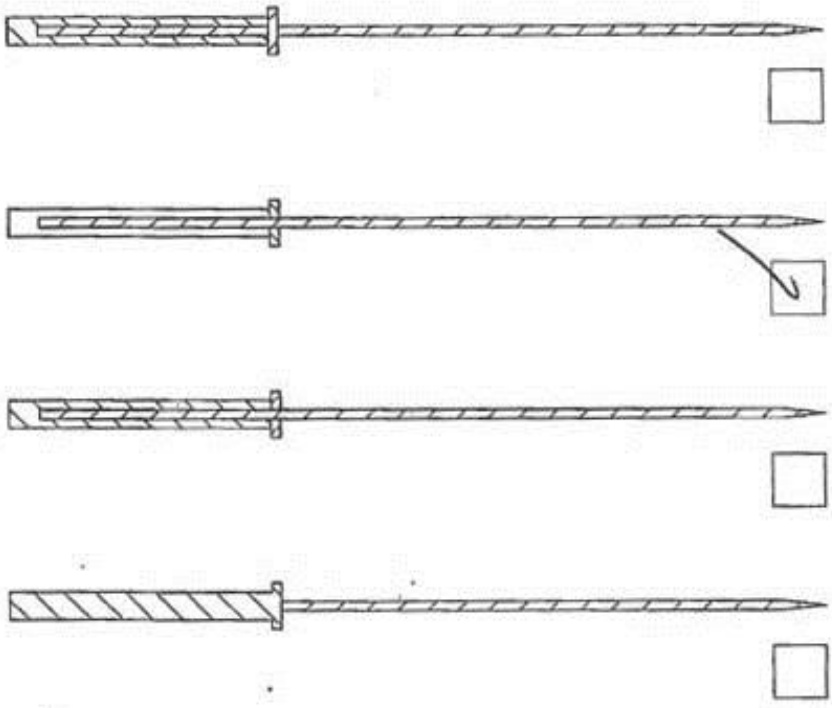
Elevation

(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. 1

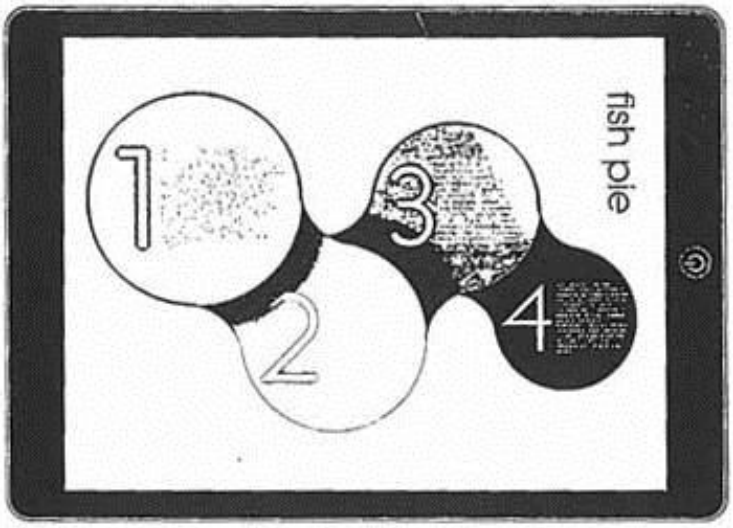


1. (i) (continued)

(ii) Identify the correct sectional plan B-B by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the sequence of the recipe shown above. 3

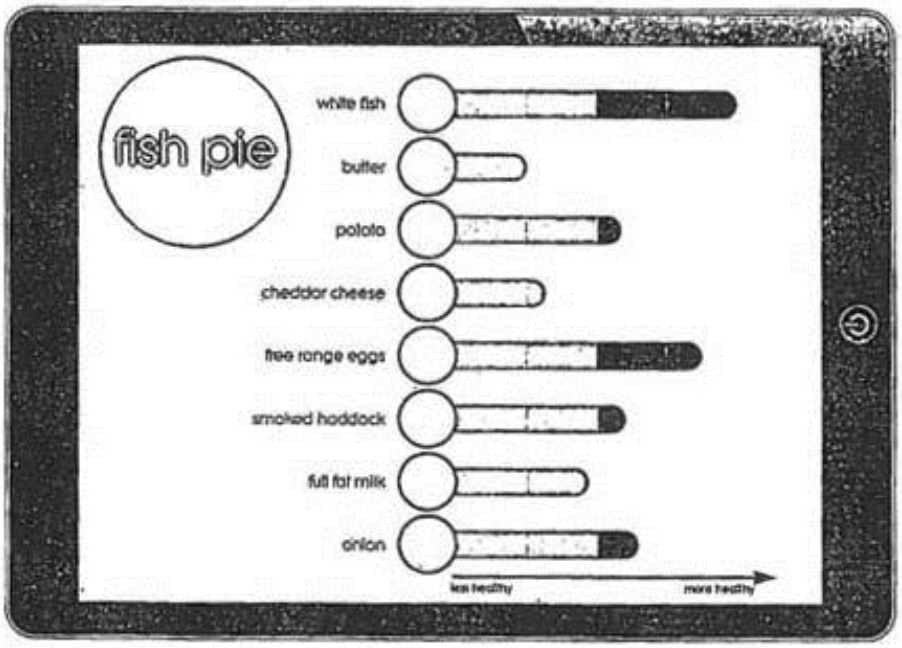
1 - The rainbow, starting from green, was used backwards, in order, to red to show the progression
2 - The circles from One to four got gradually smaller
3 - The instructions go chronologically left to right and are seperated.

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

No waste from paper and no cutting down trees.
No ink used and no left over packaging i.e. ink cartilage

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

bar graph

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

The columns gradually progressed to a darker green.

2. (continued)

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A**. 1

bar graph

(ii) Explain why this is an appropriate type of informational graphic to present. 1

You can line up the amount of each thing and compare them to one another.

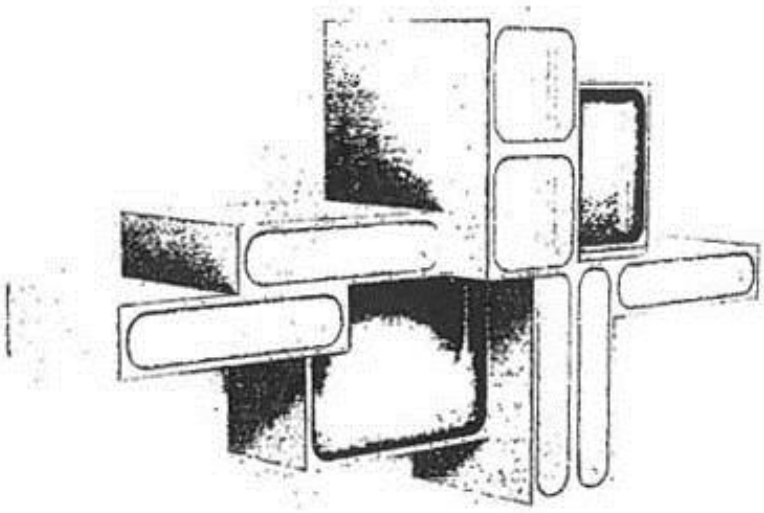
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B**. 1

Pie chart

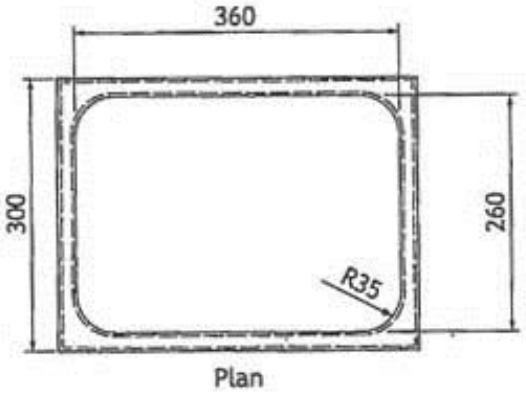
(ii) Explain why this is an appropriate type of informational graphic to present. 1

It makes the information clear and easy to understand

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

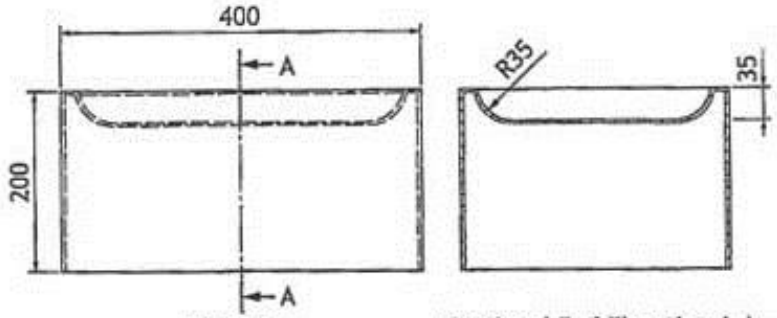


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm



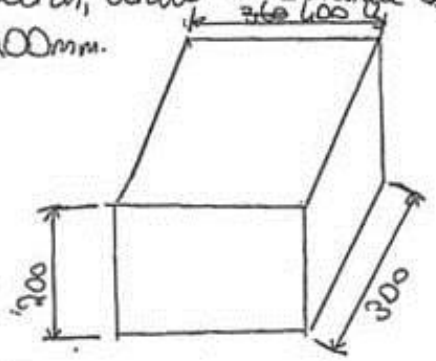
Elevation

Sectional End Elevation A-A

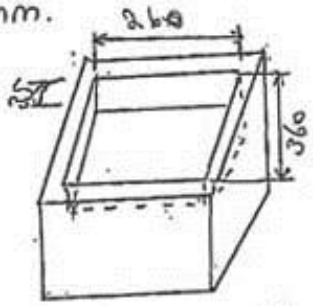
3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. 6

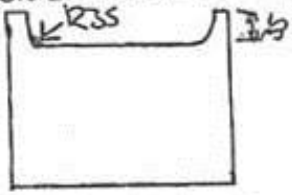
1) On a new sketch, draw a rectangle 400mm by 300mm. Extrude by 200mm.



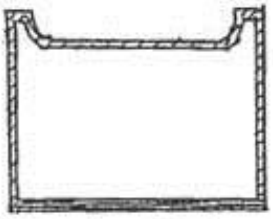
2) Start a new sketch on the top face, sketch a rectangle 360mm by 260mm. Extrude, subtract, by 35mm.



3) On the inside corners of the extrusion, apply a fillet 35mm

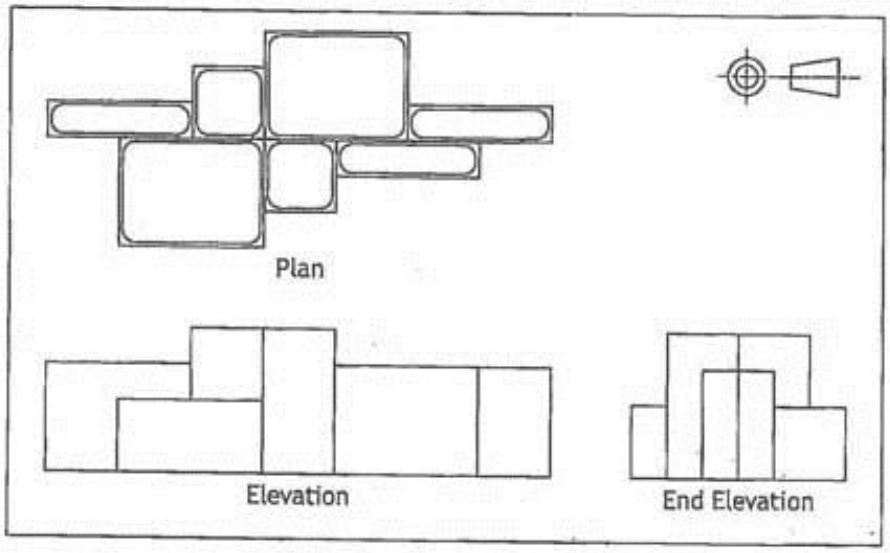


4) Apply a shell to the entire shape, leaving a wall thickness of 3mm. Removing the bottom face



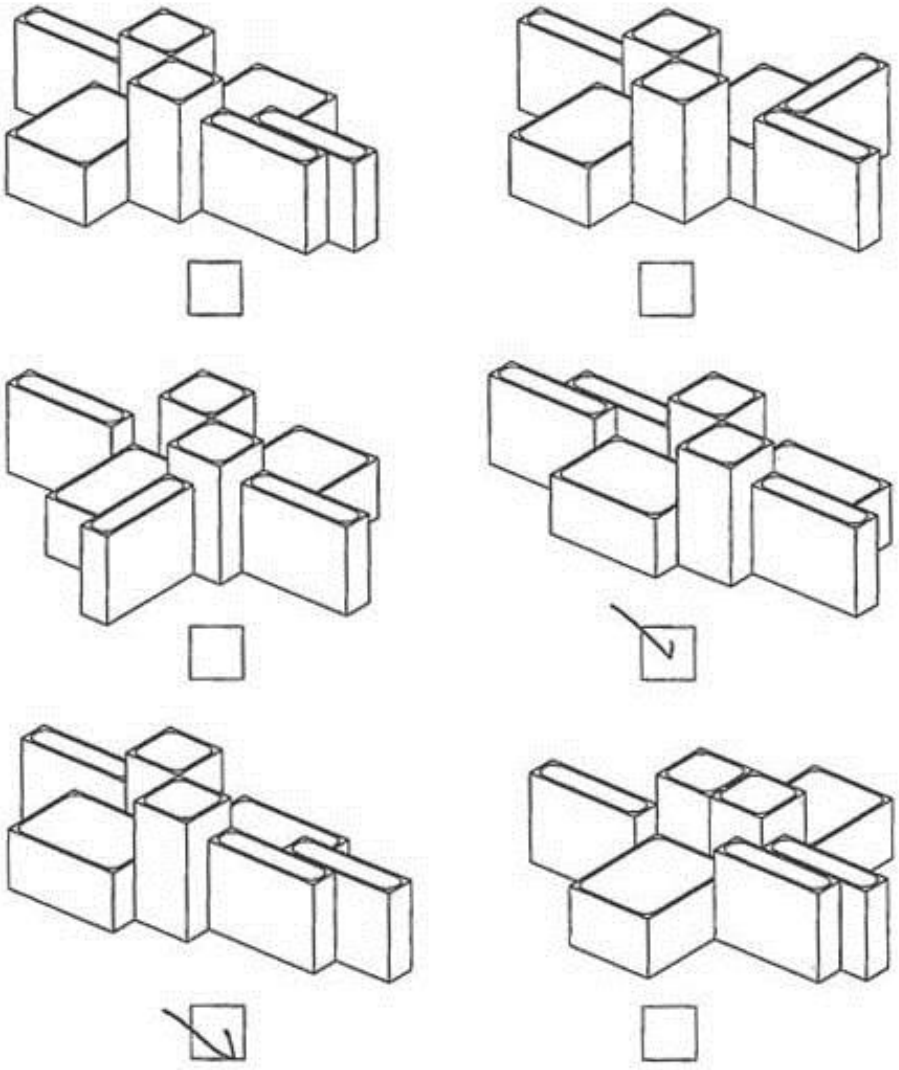
3. (continued)

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.



3. (continued)

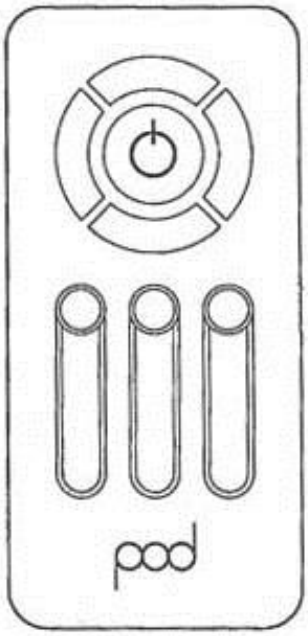
(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement in the orthographic assembly drawing shown. 2



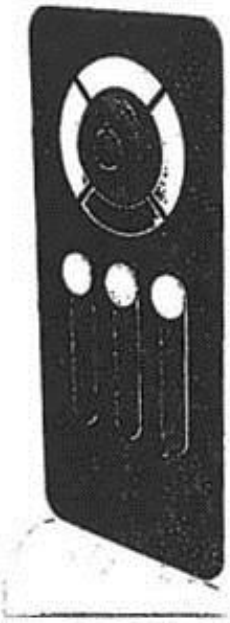
[Turn over

3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

The use of Grid and Snap to Grid can be used for speed.

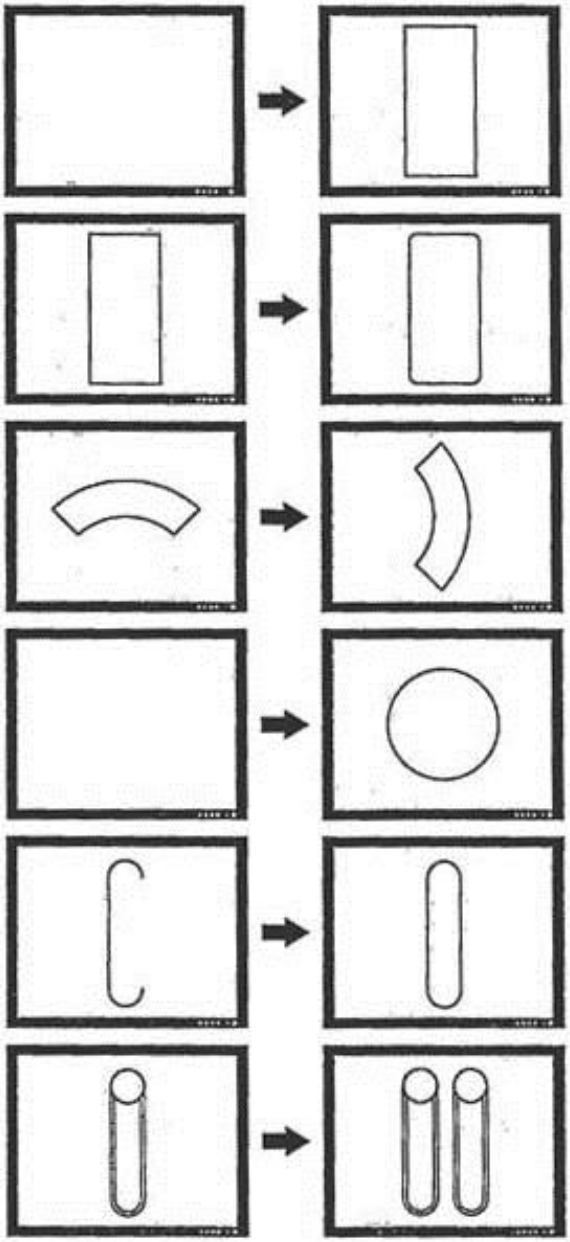
(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

3D CAD Models can be rendered to look real and they can be placed in animations to show how it works in real life.

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the single CAD tool used in each case. 6



(i) Tool used
Rectangle

(ii) Tool used
Fillet

(iii) Tool used
rotate

(iv) Tool used
Circle

(v) Tool used
Line

(vi) Tool used
duplicate

3. (continued)

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

Centre Line

(ii) A continuous thick line 1

Outline

(iii) A long dash dotted thin line, thick at ends. 1

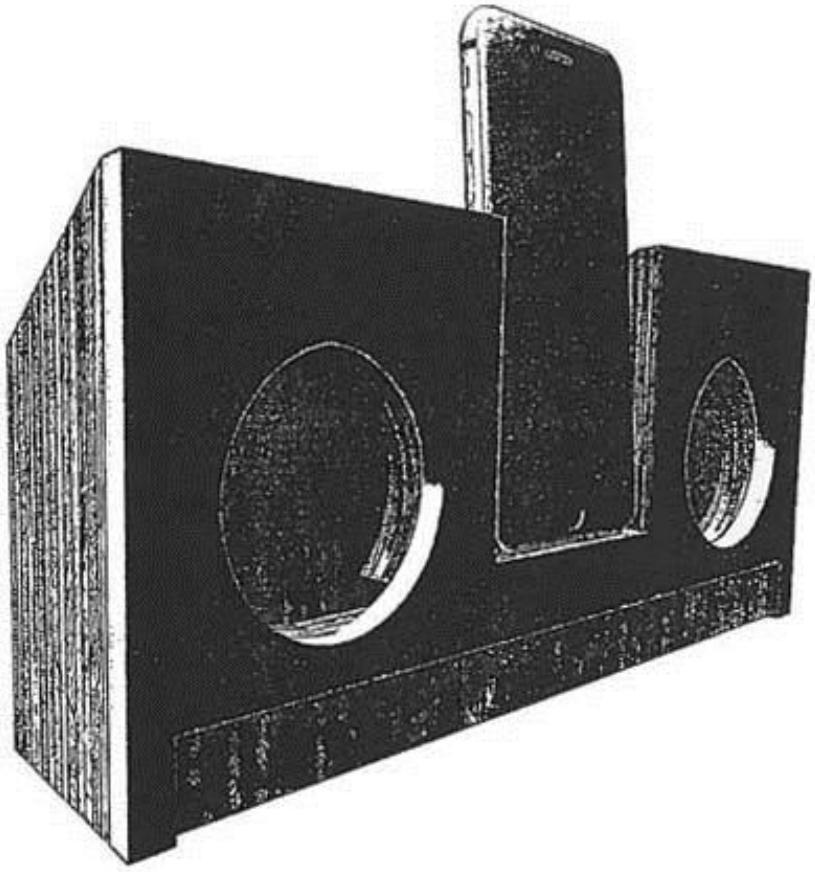
Cutting plane

The 2D CAD drawings are to be drawn using a scale.

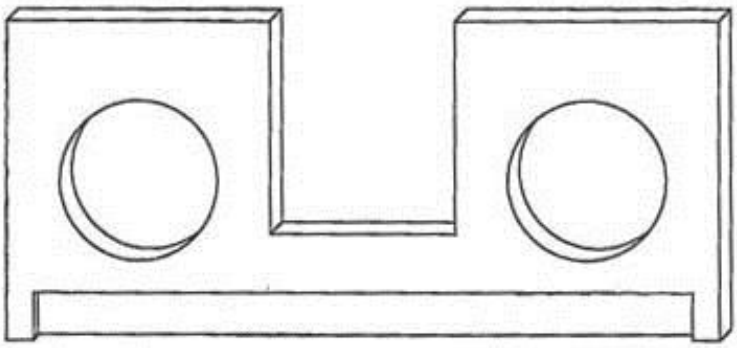
(g) Explain what is meant by the term scale 2:1. 1

The shape is double the original

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

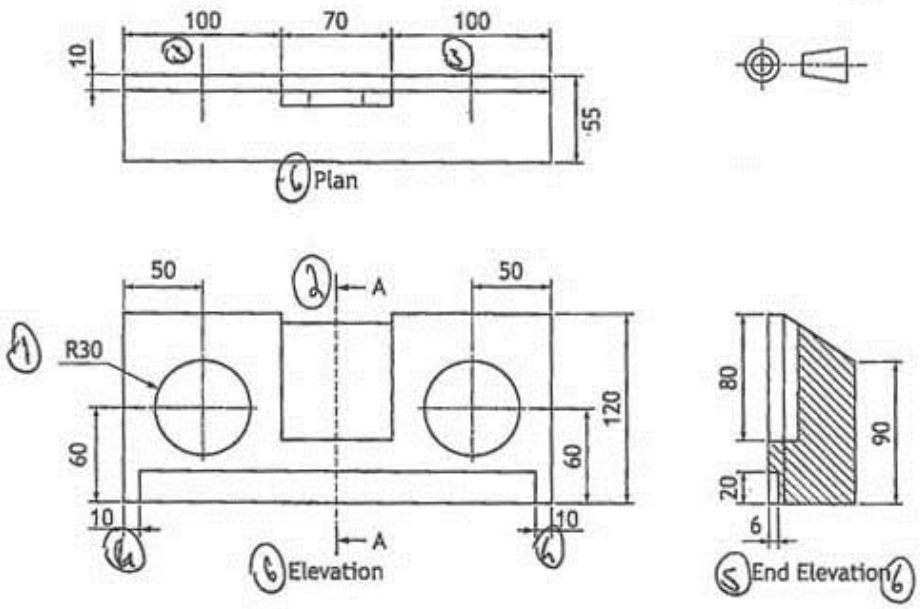


(a) State the type of pictorial view shown above. 1

oblique

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

(b) State the five errors found in this drawing. 5

You may annotate the orthographic drawing to support your answer.

1- The circles should be measured Ø (diameter) instead of R (radius)

2- Cutting Plane AA should be ---- (slash dot chain) instead of a dotted chain

3- There shouldn't be centre lines on the plan

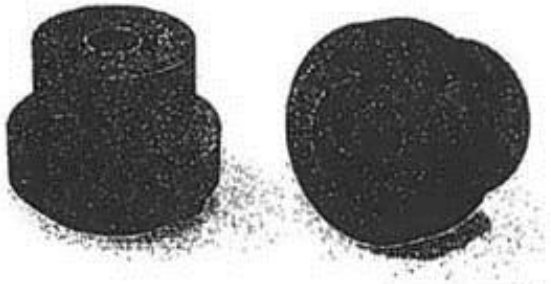
4 - 2 of the same measurements have been shown. Dimension should only be shown once

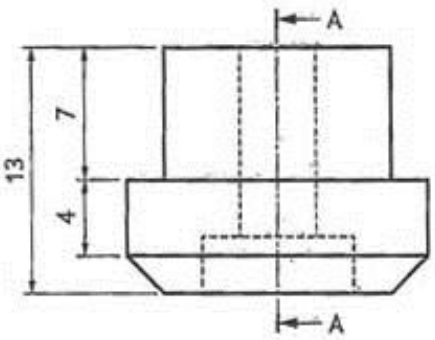
5 - ~~The Rotation~~ The Sectional view has been labelled End Elevation

6 - Writing is in lowercase instead of Upper Case.

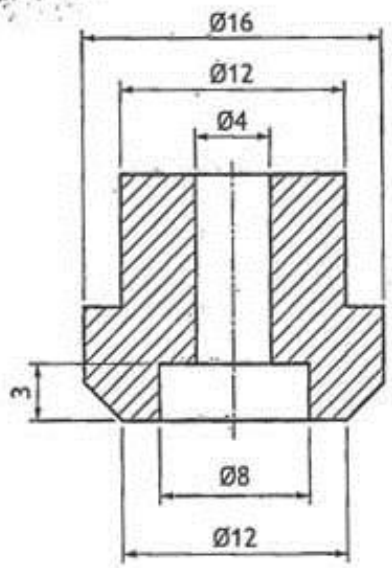
4. (continued)

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation



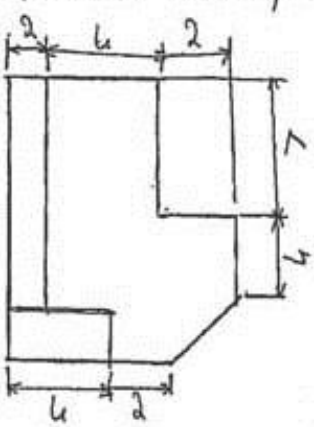
Sectional End Elevation A-A

4. (continued)

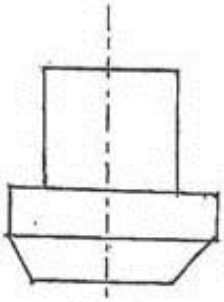
(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

You may use sketches to support your answer.

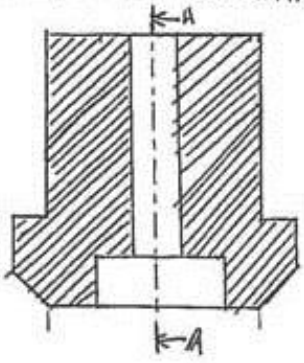
1) On a horizontal plane, sketch the shape shown in this diagram



2) revolve 360° around centre axis



3) Extrude, Cut, the centre shape to leave it hollow



4. (continued)

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

- Electronically emailing drawing saves paper and Mailing costs.
- Drawings can be easily edited and manipulated by recievers.

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

- The drawings can be understood everywhere.
- No mistakes would be made and no building faults would happen

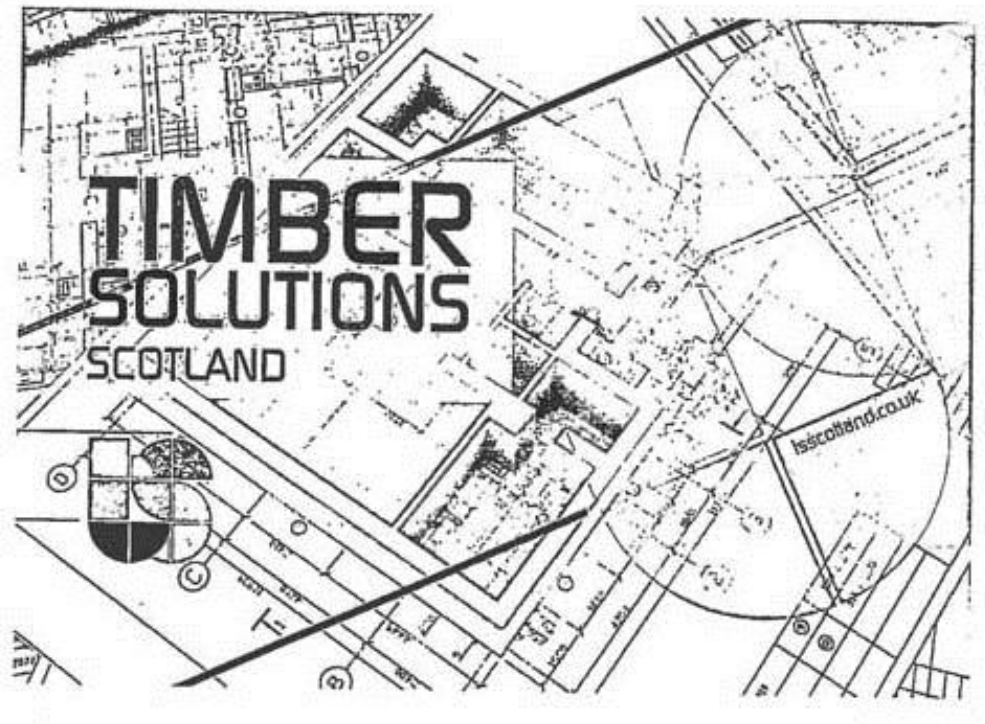
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views To see the inside detail and how everything fits together 1

(ii) Assembly drawings Shows how the parts would look together and to prove they fit. 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

- The lines ontop of an image creates depth
- The lines bleed of the page to give movement on the poster

(ii) Dominance 2

- The brown writing dominates the page as it contrasts the blue and white
- The circle features overtop the image dominate the page as they contrast eachother

(iii) Colour 2

- The orange/brown contrasts with the blue
- The white background image creates a clean and safe overall look.

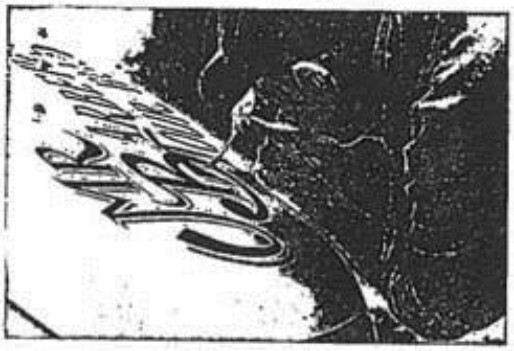
(iv) Unity 2

- The blue lines are in unity with the blue design
- The brown title is in unity with the website written in the same colour

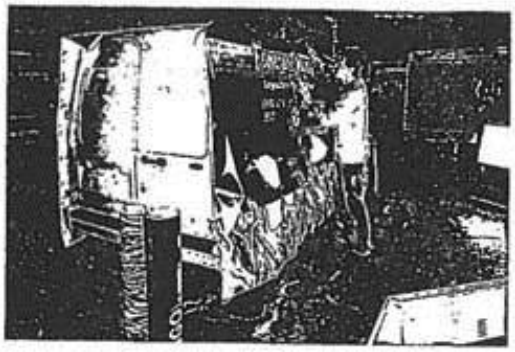
[Turn over

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.



Traditional painting technique



Modern printed technique

(b) Describe two advantages to the client of modern printing techniques over traditional painting techniques. 2

- The modern printing method speeds up application meaning more can be produced. It is more efficient
- Modern methods have more accuracy as it is premade, rather than freehanding images which can cause flaws.

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.

The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques**.

(i) *The word 'house' in the heading is difficult to see* 1

Use reverse and make 'house' white so it is white text on a dark background

(ii) *The large column of extended text makes it difficult to read* 1

Use fully justified text and split the colums in to add lookers

(iii) *The bottom image would look better without the sky in the background* 1

Use the cutout studio to remove the sky

(iv) *The body text is too close to the edge of the paper* 1

apply a margin to the left side of the page

6. (continued)

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

Sans serif fonts have softer edges and it contrasts the other text

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

Use snap to grid or a scale factor

6. (continued)

During the production of the layout, using desktop publishing software, the graphic designer used guidelines.

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

Guidelines keep everything symmetrical and accurate.

It keeps the page clean and easy to follow while producing

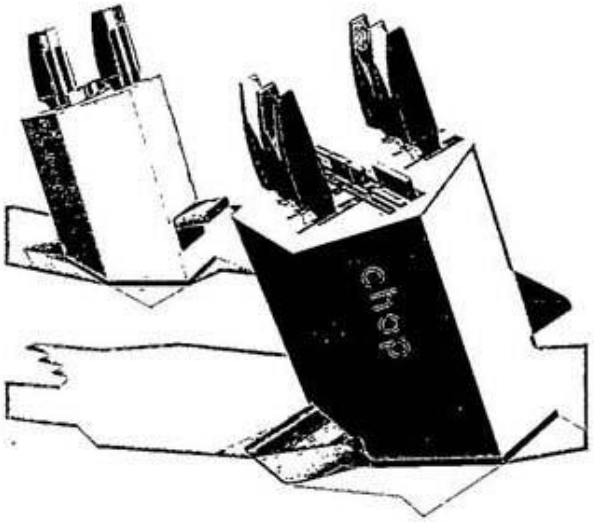
[END OF QUESTION PAPER]

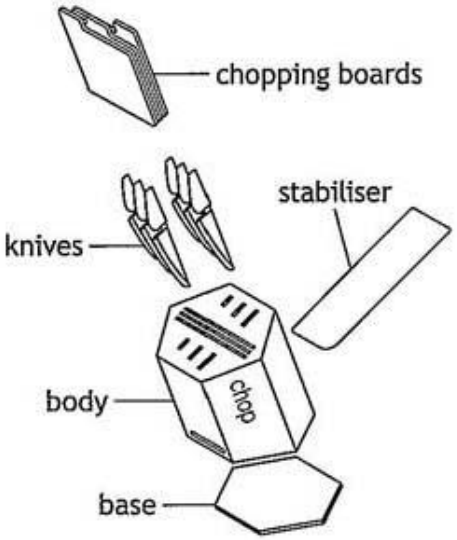
Candidate 3 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.





A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

- You can edit it, when it's needed to be suited.
- It's a faster, more accurate way to produce a model.

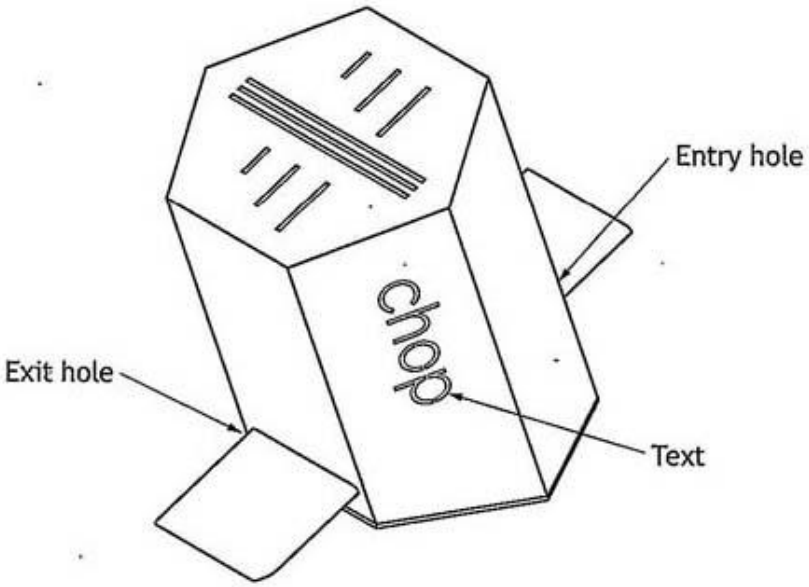
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

British standard

1. **(continued)**

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

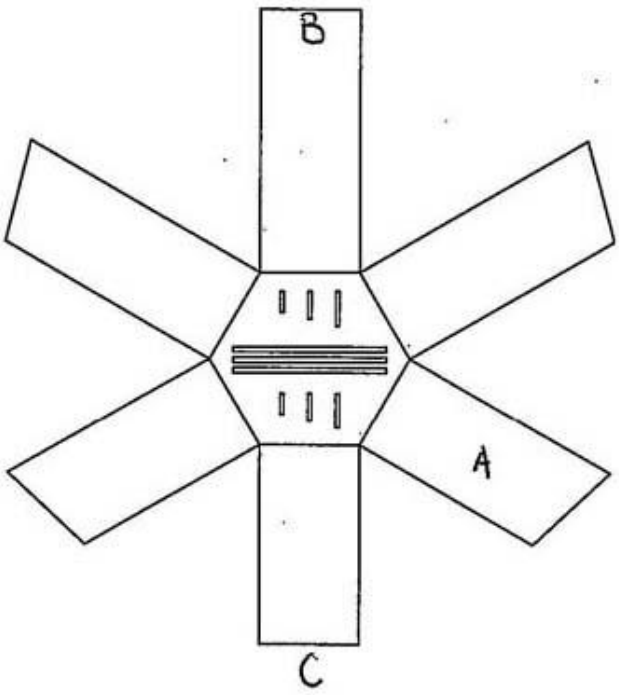


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use **A** to indicate on the panel where the Text would be located.

Use **B** to indicate on the panel where the Entry hole would be located.

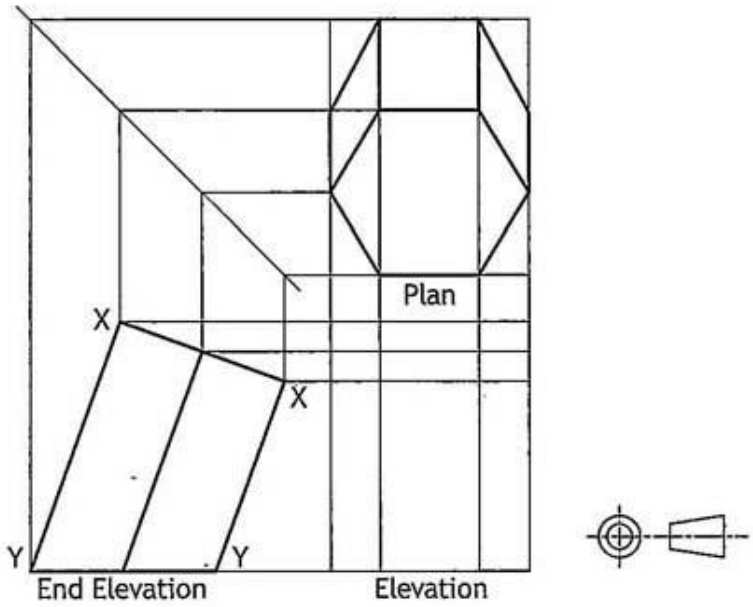
Use **C** to indicate on the panel where the Exit hole would be located.



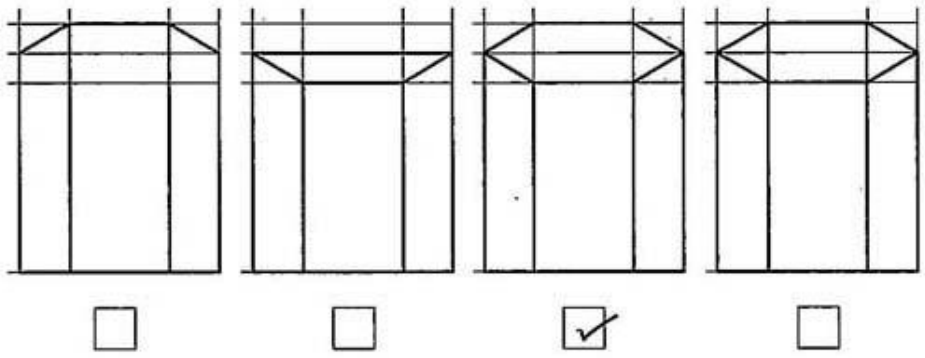
1. (continued)

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

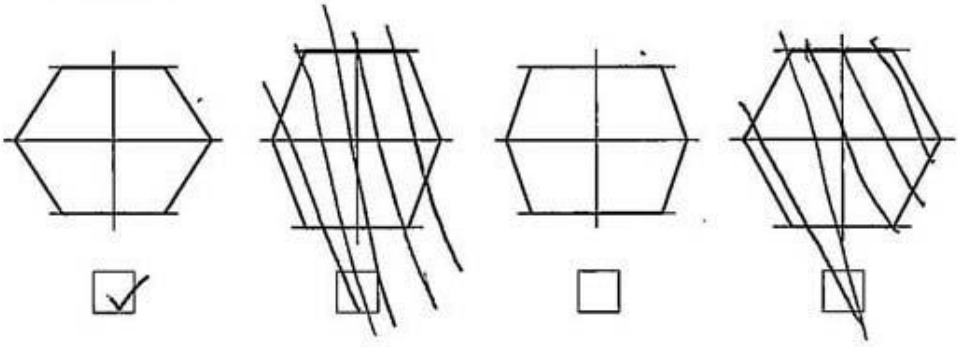


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



A true shape of surface X–X was required.

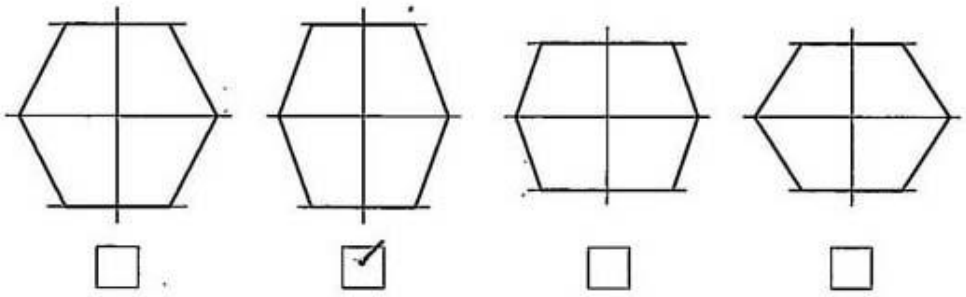
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. **(continued)**

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

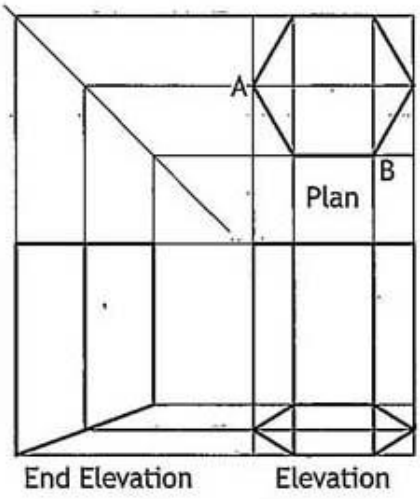
You should refer to the orthographic drawing below.

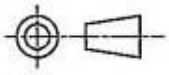
(i) When opened out at generator A, the correct surface development is view. 1

4 *Insert number*

(ii) When opened out at generator B, the correct surface development is view. 1

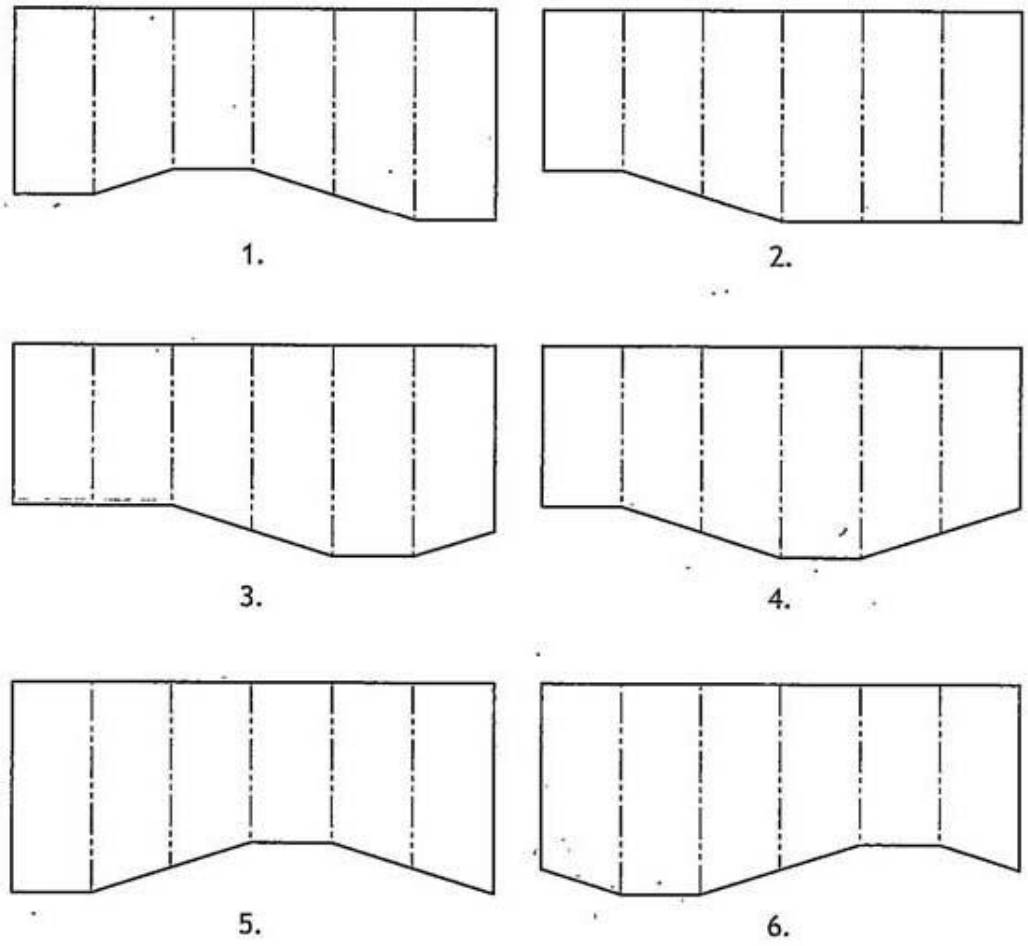
1 *Insert number*





1. (continued)

The range of surface developments are show below.



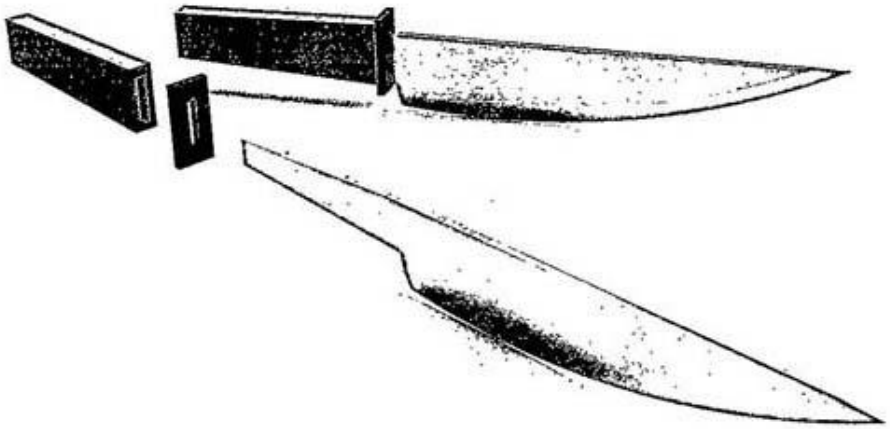
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

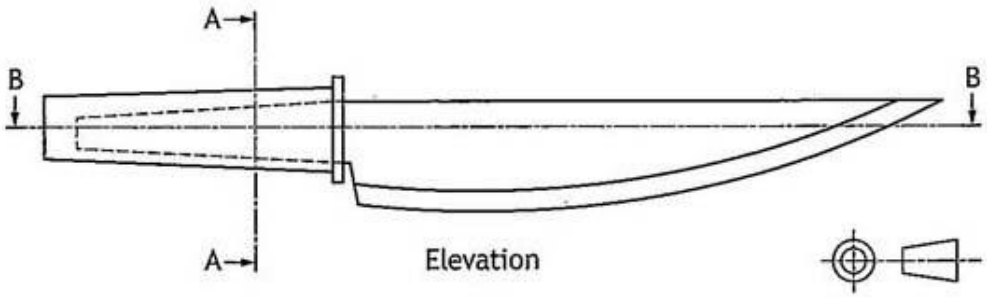
To make sure that when things are built they are animal safe

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

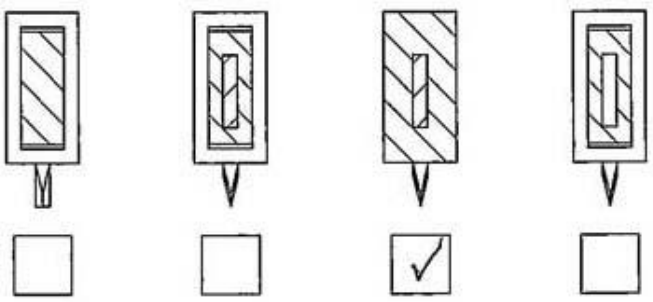


Plan



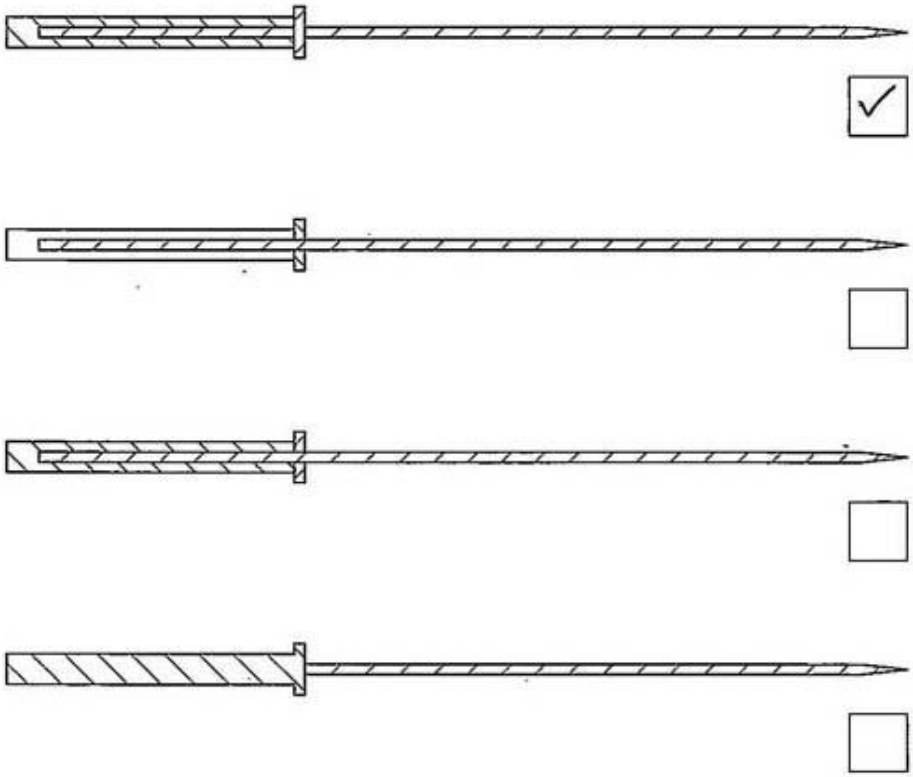
Elevation

(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. 1

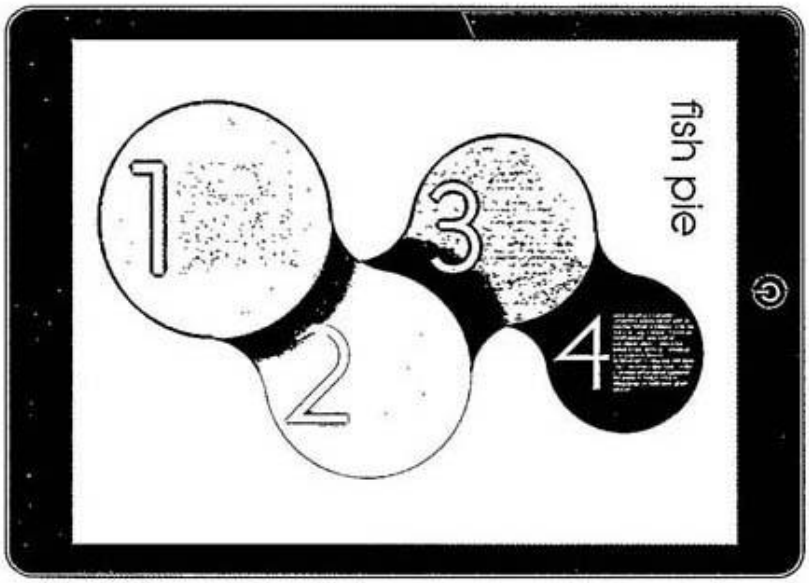


1. (i) (continued)

(ii) Identify the correct sectional plan **B-B** by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the **sequence** of the recipe shown above. 3

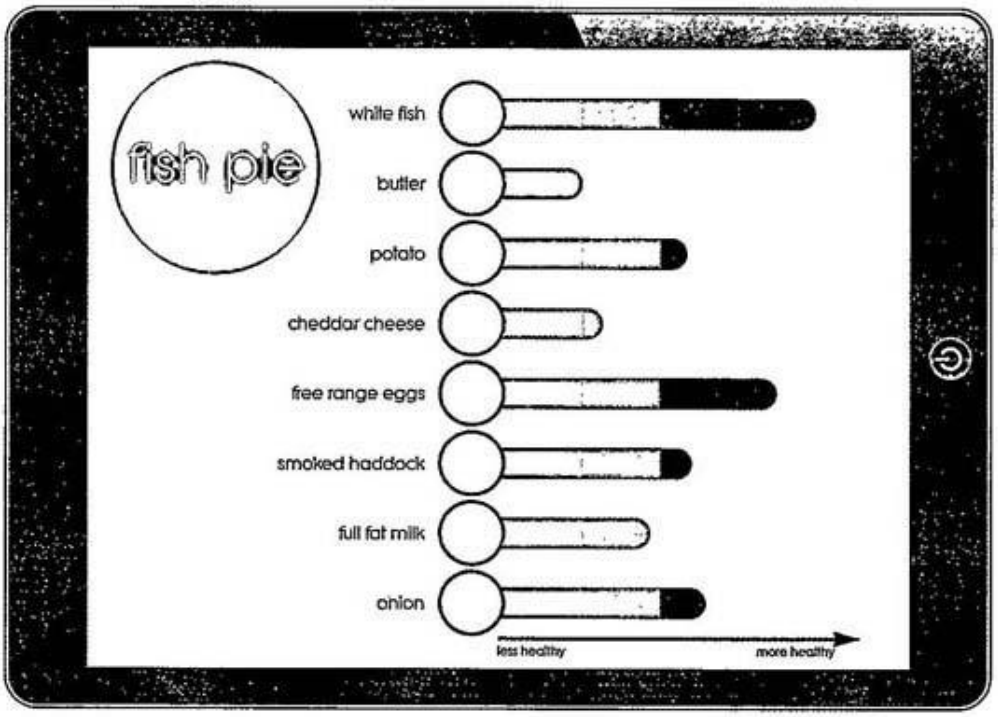
First of all he has used numbers to make sure that they know what order it goes in. The he has used colours to show each step out carefully. He has joined them together by using shapes to identify the different information.

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

It would use less paper, saving more trees. Use less ink which can harm things. Allow trees to grow.

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

Bar graph

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

He has used the colour green which associates with vegeables

2. (continued)

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A**. 1

Table

(ii) Explain why this is an appropriate type of informational graphic to present. 1

It has many columns that allow you to clearly provide the correct information

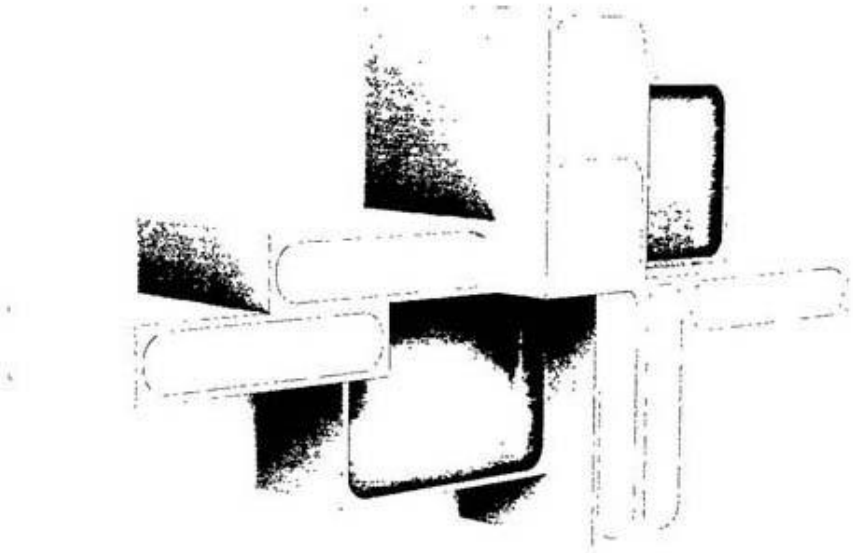
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B**. 1

Bar ~~line~~ Graph

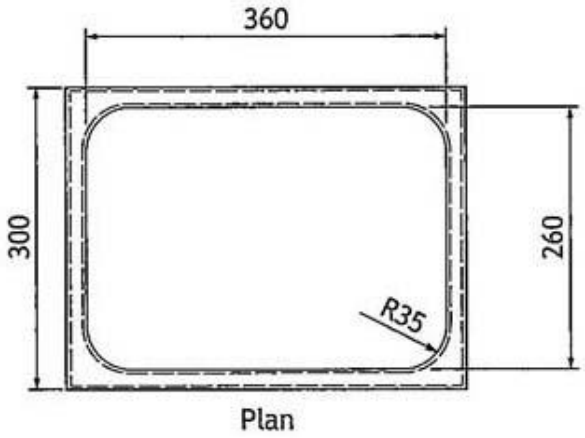
(ii) Explain why this is an appropriate type of informational graphic to present. 1

shows that clearly what a healthy diet should maintain

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

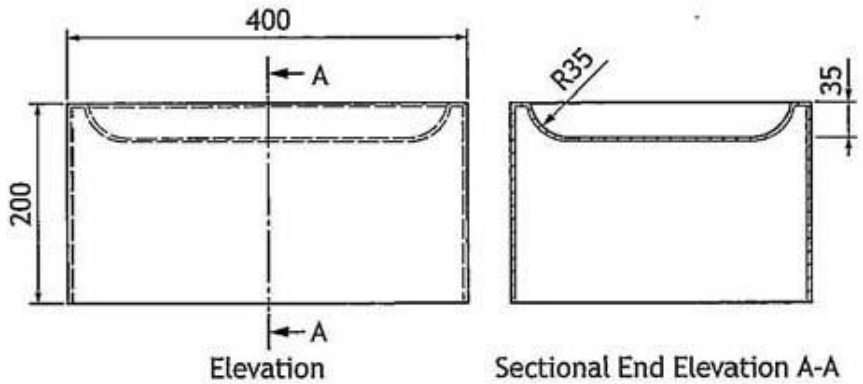


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm



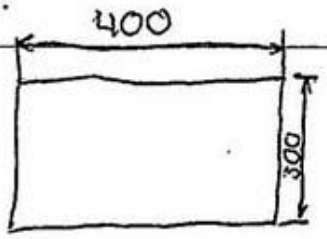
Elevation

Sectional End Elevation A-A

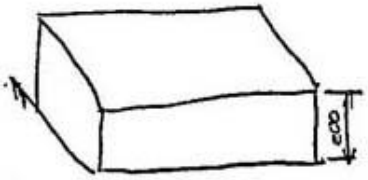
3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. 6

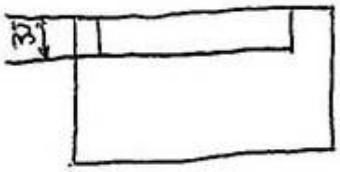
1) Draw a rectangle



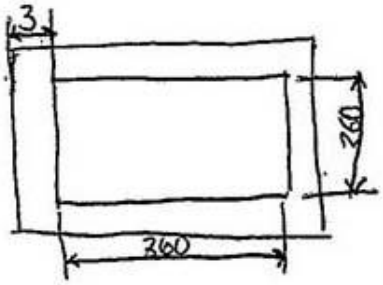
2) Extrude the rectangle by 200mm.



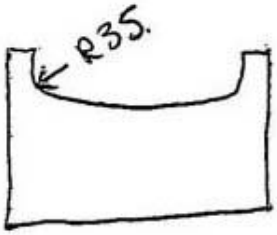
4) Take the extruded rectangle tap on the surface and subtract by 35mm.



3) Wall thickness should be 3mm draw a rectangle.

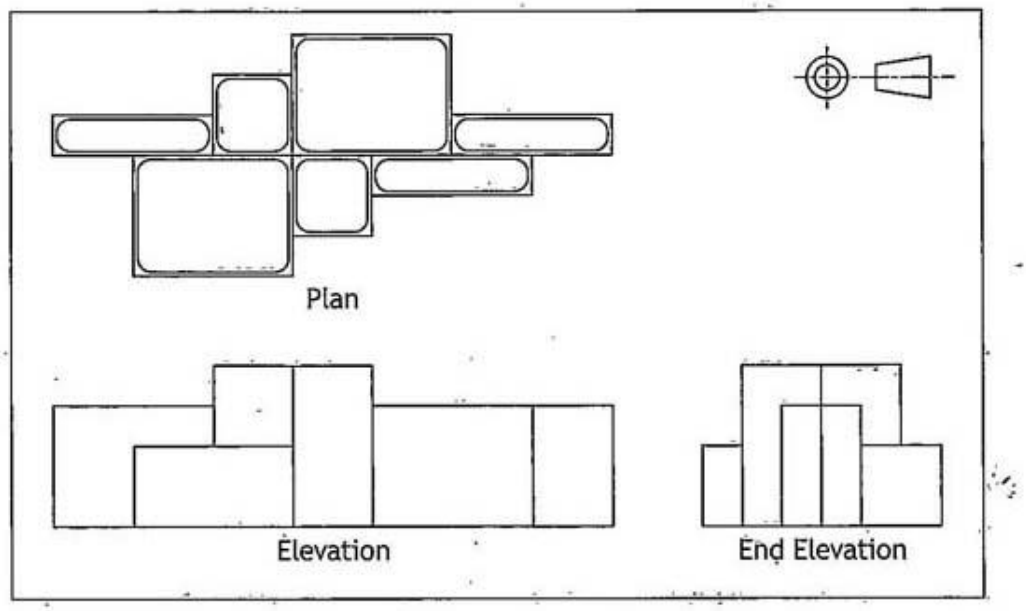


5) Fillet the four sides of the inner rectangle At R35.



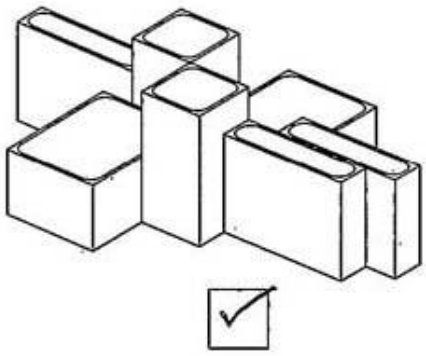
3. (continued)

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.

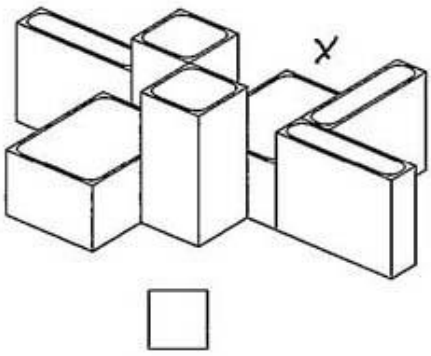


3. (continued)

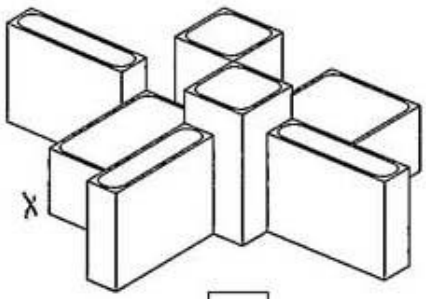
(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement **in the orthographic assembly drawing shown.** 2



☑



☐



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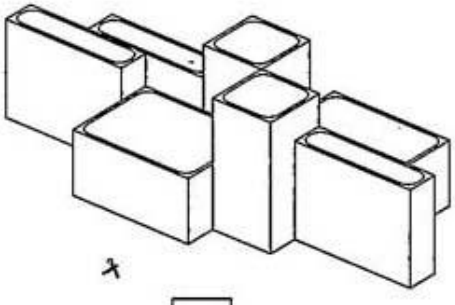

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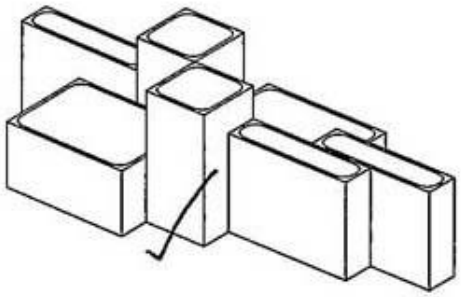
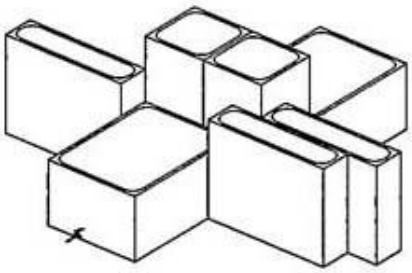


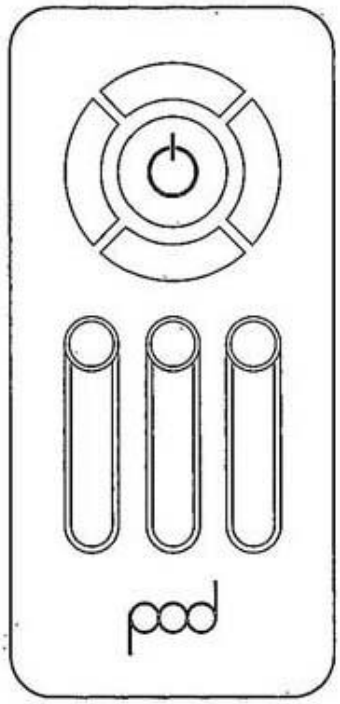
☑



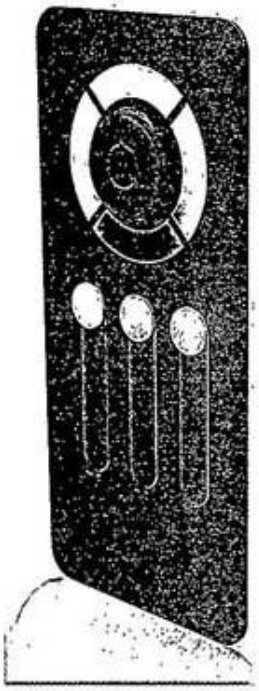
☐

3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. **1**

It doesn't include complex movements such as extruding, fillets, subtraction. You can just create it by taking the 3D CAD and

(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. **2**

~~It's a fast easy way to complete the~~ ~~product~~ ~~[illegible]~~ → It looks more realistic than the 2D ~~[illegible]~~ CAD.

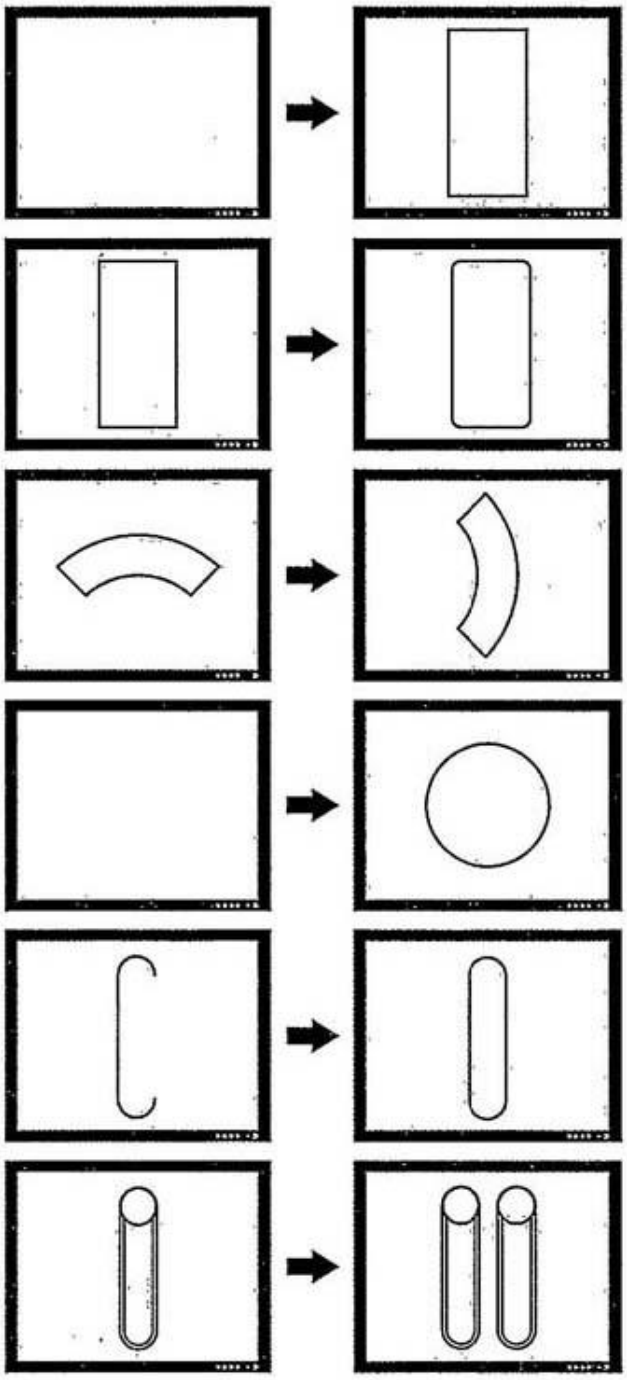
→ ~~It can~~ It's an easier way to see the finished product.

→ It can give you an accurate idea.

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the **single** CAD tool used in **each case.** 6



(i) Tool used
rectangle.

(ii) Tool used
fillet

(iii) Tool used
~~Arc~~ turn

(iv) Tool used
circle

(v) Tool used
line

(vi) Tool used
copy

3. **(continued)**

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

to show the centre of a circled object

(ii) A continuous thick line 1

to show the outline of an object

(iii) A long dash dotted thin line, thick at ends. 1

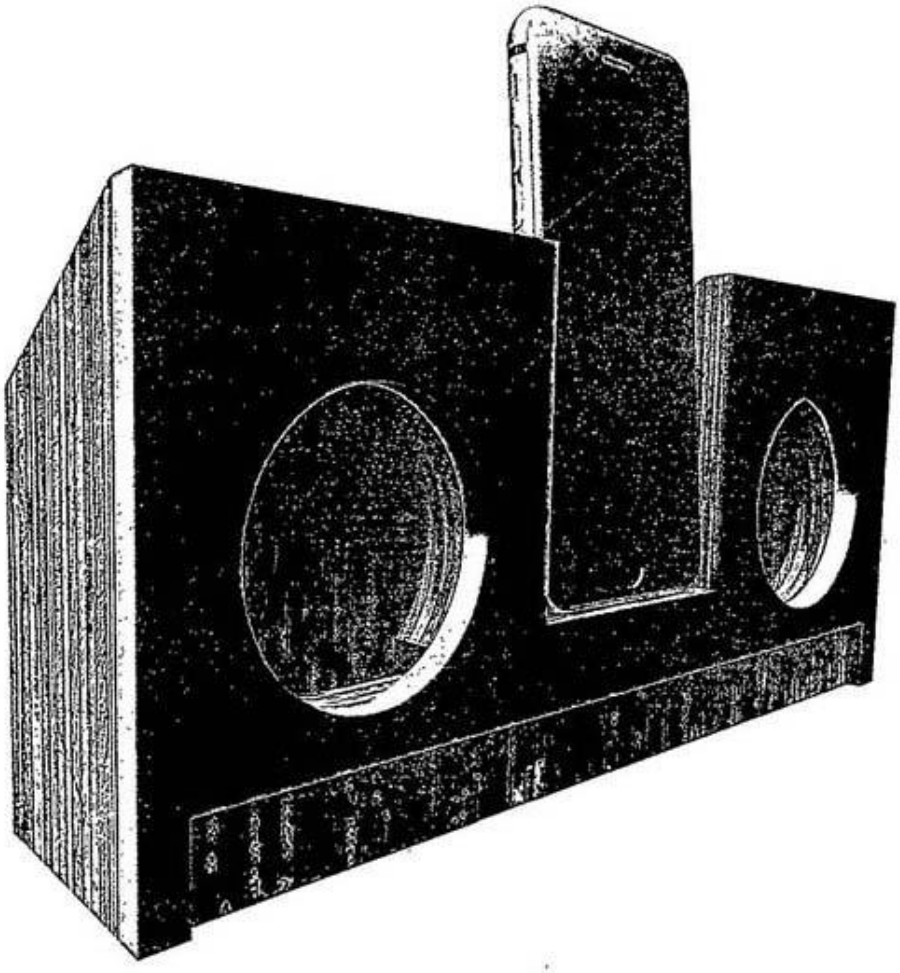
to show where sectional views are

The 2D CAD drawings are to be drawn using a scale.

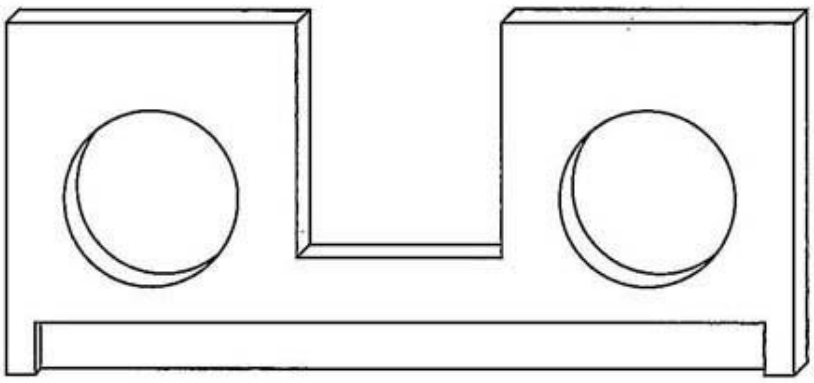
(g) Explain what is meant by the term scale 2:1. 1

2 is the paper size 1 is the real life size

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

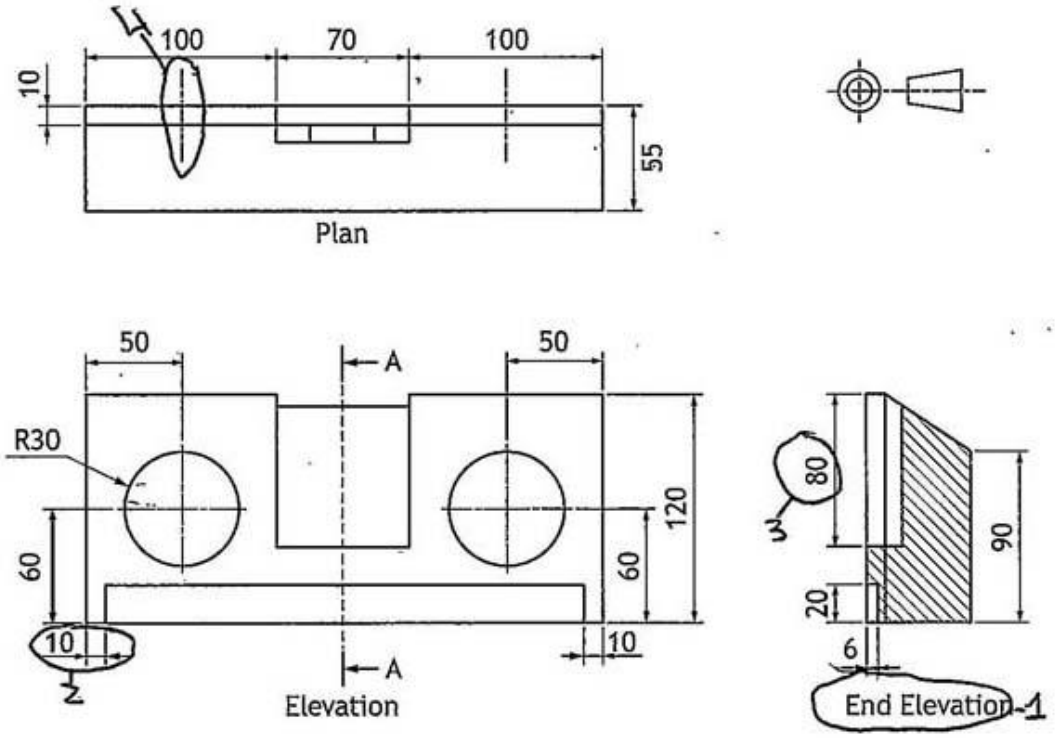


(a) State the type of pictorial view shown above. 1

Isometric Drawing

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

(b) State the five errors found in this drawing. **5**

You may annotate the orthographic drawing to support your answer.

1- End elevation there is no A-A section viewsign.

2 – do not write below graphics

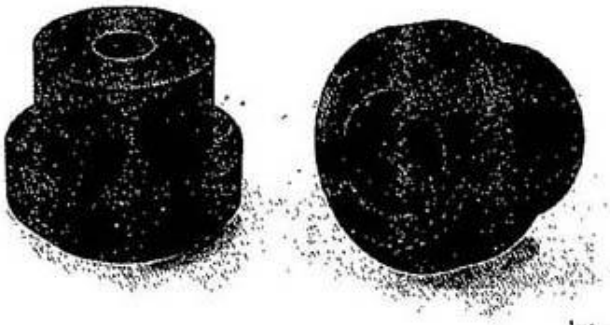
3 – Don't dimension the sectional view

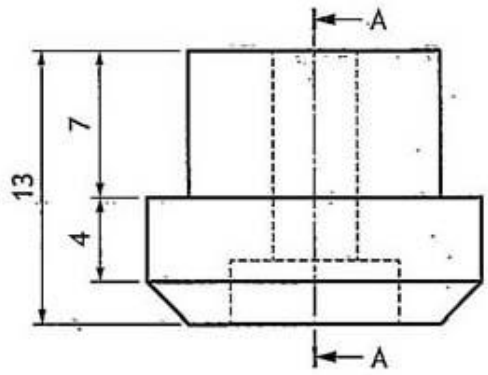
4 – If theirs no circle showing then don't use lines

5 –

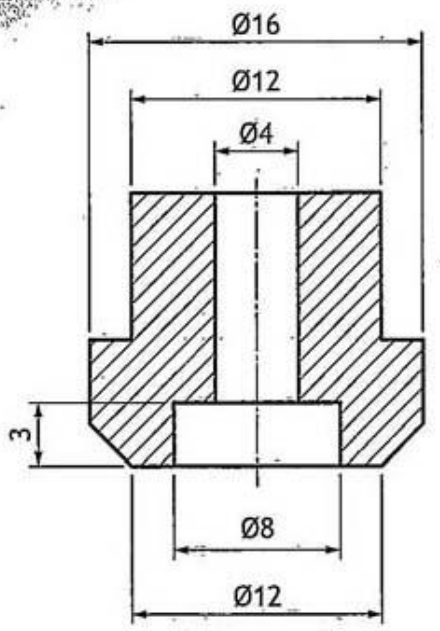
4. (continued)

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation



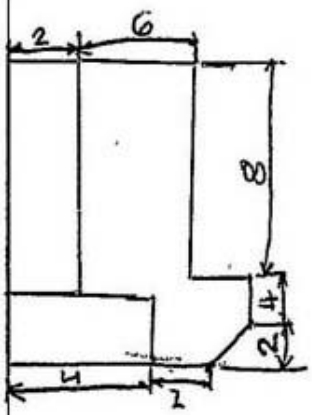
Sectional End Elevation A-A

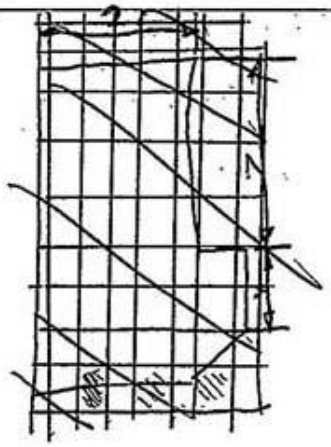
4. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

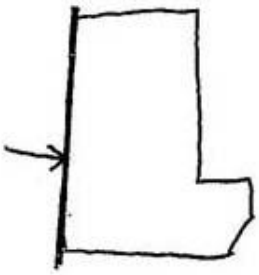
You may use sketches to support your answer.

1. Drawing the following shape accurately



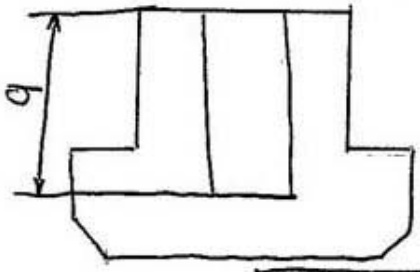


2. Clicking on the part where the arrow is pointing by extruding(all).

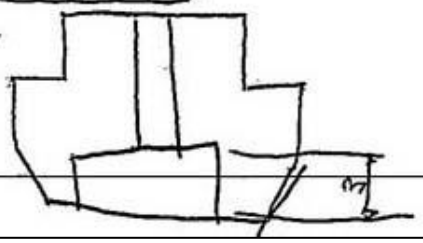


~~1. Drawing the shape accurately~~

3. Draw a circle on the bottom. Subtract by 9



4. Then subract 3 from the bottom drawing a circle.



4. **(continued)**

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

People who want to make something similar could use these.

It can show the company of and get more followers / ~~cos~~ customers

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

If you were to change it people may not understand the ~~part~~ sizes, so may not want to buy it

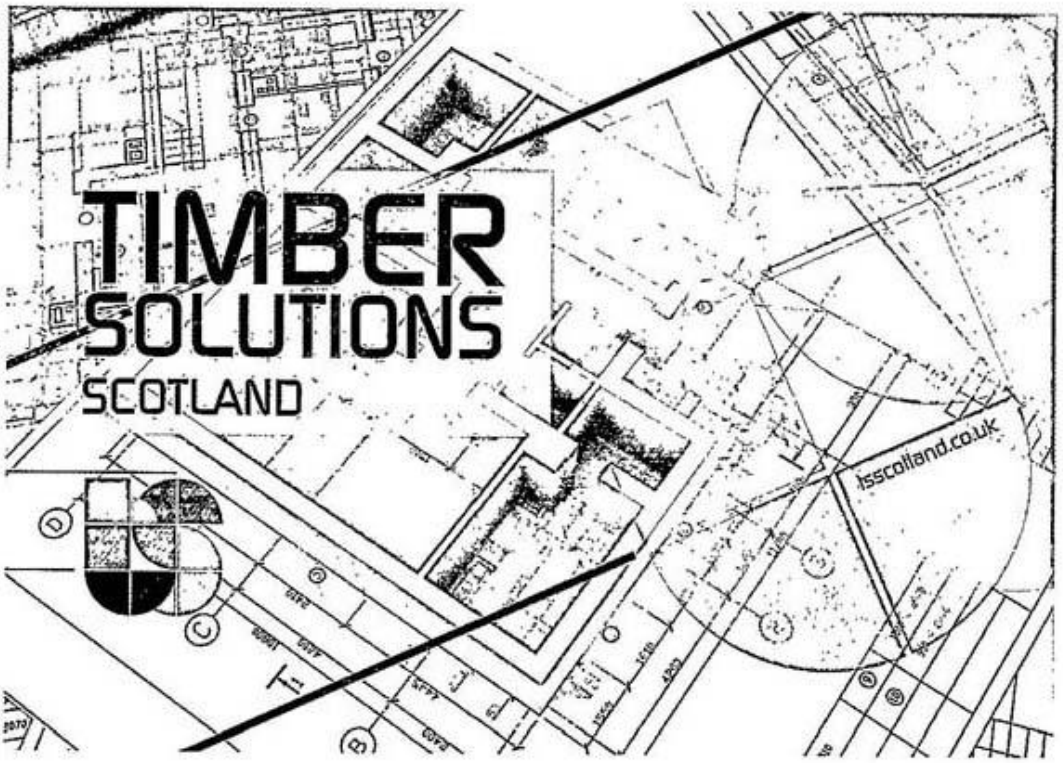
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views It show you the inside of ~~what happens~~ the object demonstrating what does and doesn't get caught 1

(ii) Assembly drawings shows you the full diagram or object so you know what it looks like 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

He used line to change the way the shapes looke to add more affect to the promotional poster.

(ii) Dominance 2

He has used a bright bold title which stands out from the rest of the page allowing them to identify the title

(iii) Colour 2

He has used white as it is a proffessional and it associates with what the type of subject it is

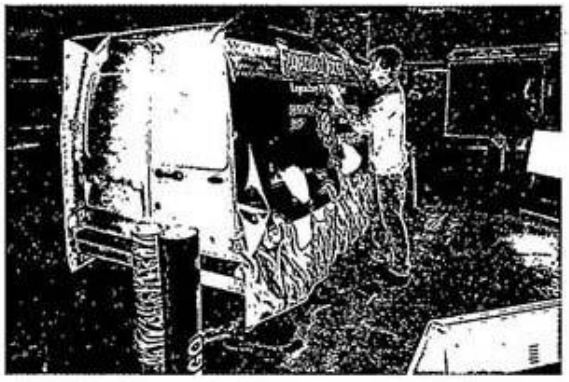
(iv) Unity 2

He has used the same colour when he drew out what the building was going to look like

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.

Traditional painting technique

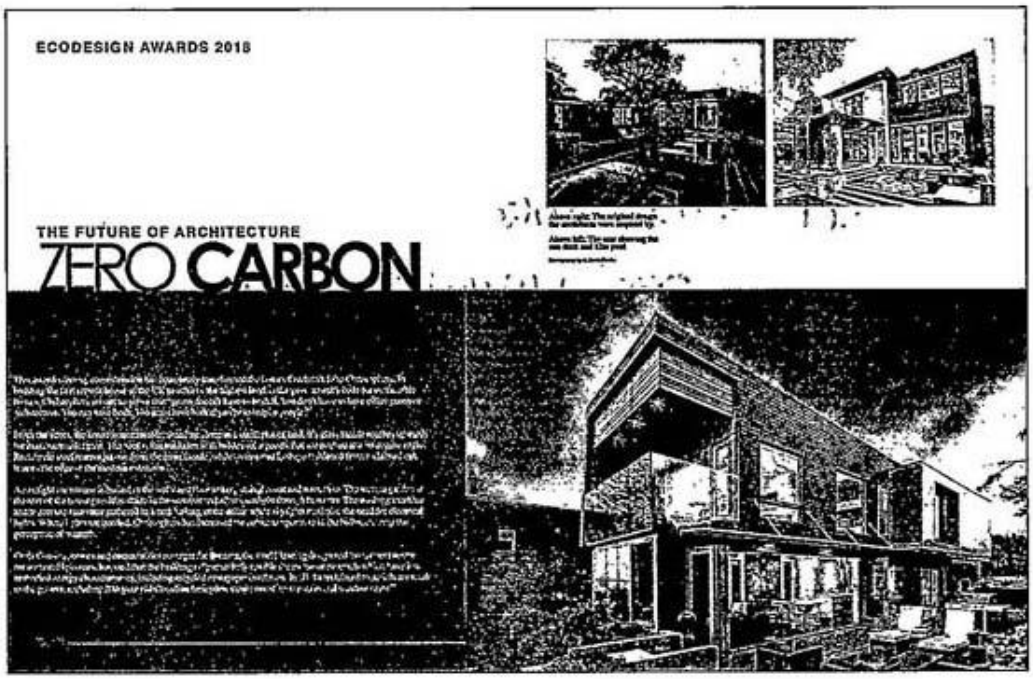


Modern printed technique

(b) Describe two advantages **to the client** of modern printing techniques over traditional painting techniques. 2

It's a more quicker way of designing a vehicle with a more neater design to it.
It doesn't cost as much, so replacing damaged parts can consist of taking down the poster and replacing, not getting a new van, car ect.

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.



The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

It would make it more clearer to read therefore make the title more bold.

(ii) *The large column of extended text makes it difficult to read* 1

Shorten down the text to short snappy words, draws more attention

(iii) *The bottom image would look better without the sky in the background* 1

It would draw attention to just the house, the main subject

(iv) *The body text is too close to the edge of the paper* 1

If you moved it in the reader won't be distracted by it.

6. (continued)

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

As the rest of the page is filled with lots of highly detailed images.
it is bold text, not to fancy gets the title accross quickly.

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

He could have used crtl alt and moved the arrow.

6. **(continued)**

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines.**

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

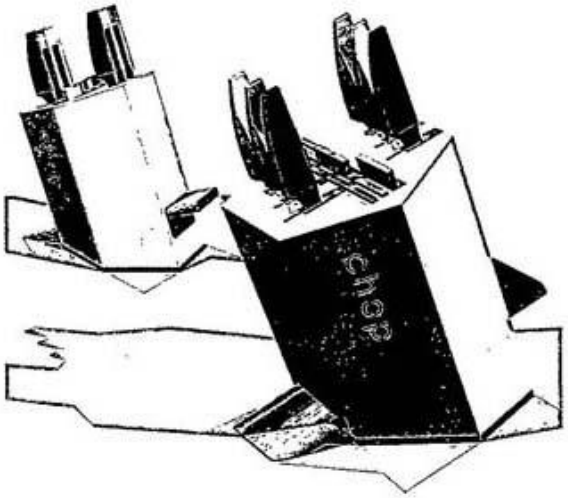
You can clearly place all of the information carefully ~~used~~
It can make the poster look more neat and tidy not everly crowded

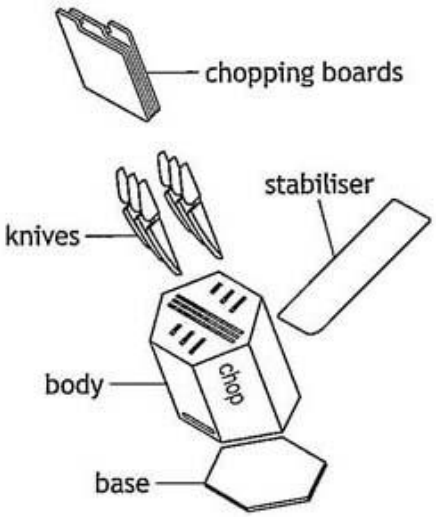
Candidate 4 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.





A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

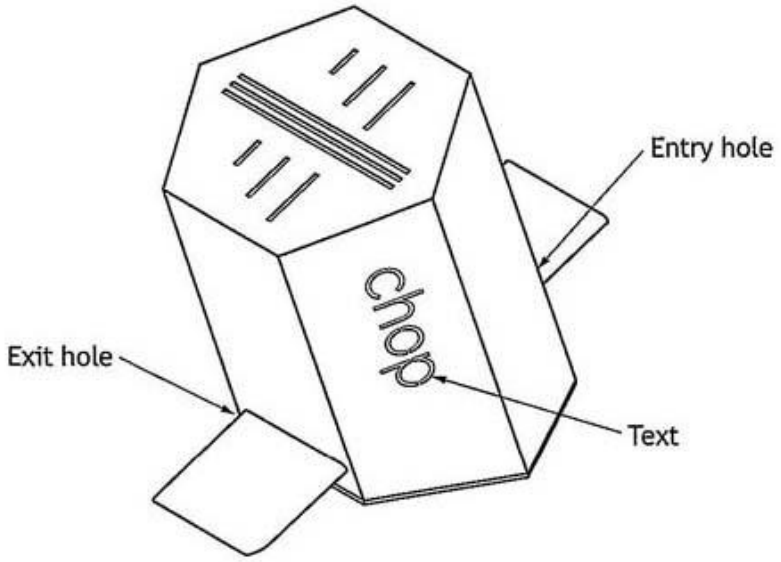
It will take up less physical space.
wont get damaged.
it would save time rather than making it manually.

To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

1. (continued)

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

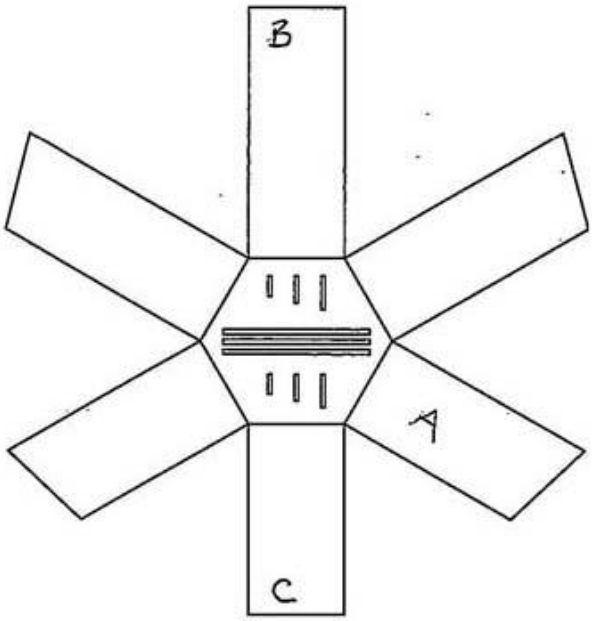


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use **A** to indicate on the panel where the Text would be located.

Use **B** to indicate on the panel where the Entry hole would be located.

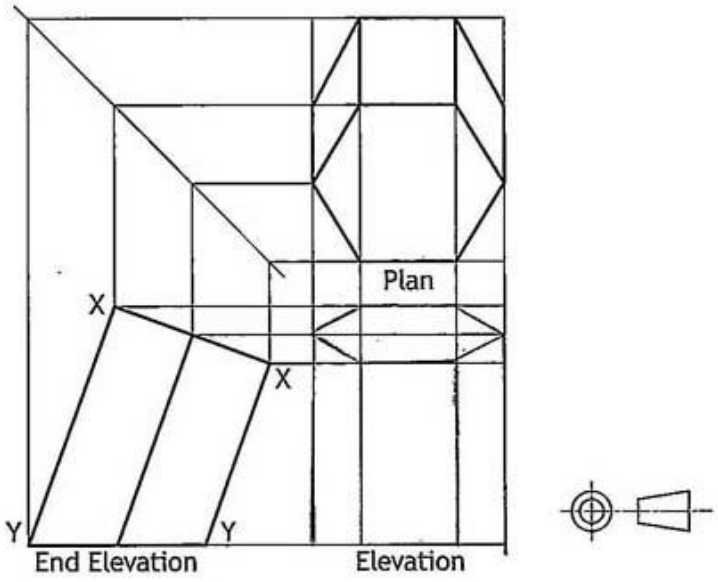
Use **C** to indicate on the panel where the Exit hole would be located.



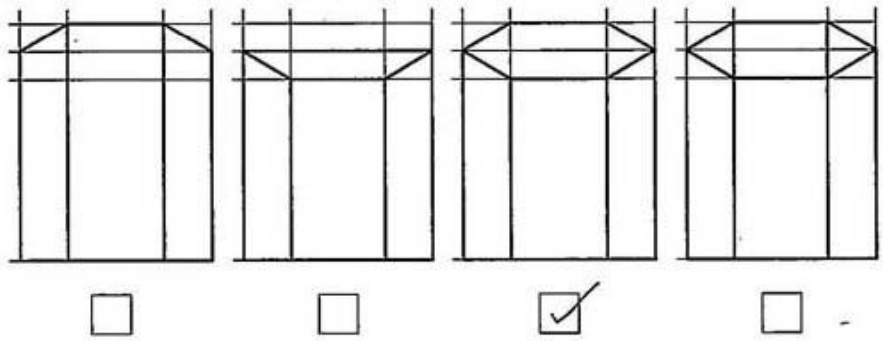
1. (continued)

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

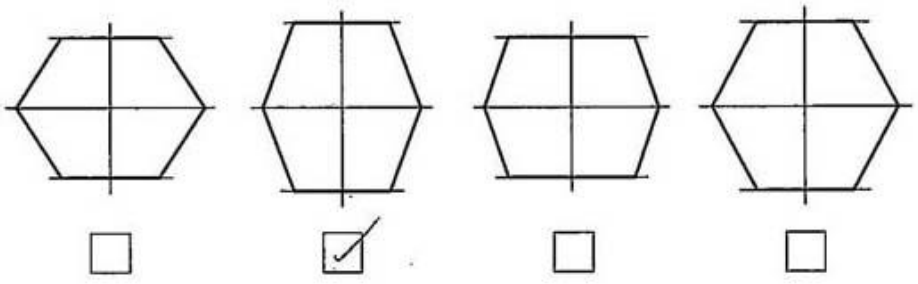


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. **1**



A true shape of surface X–X was required.

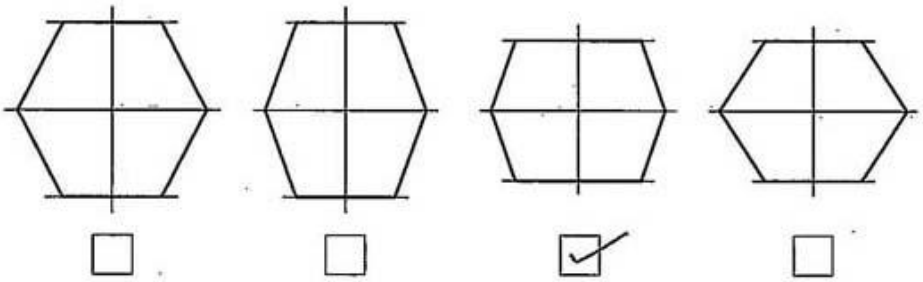
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. **1**



1. **(continued)**

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

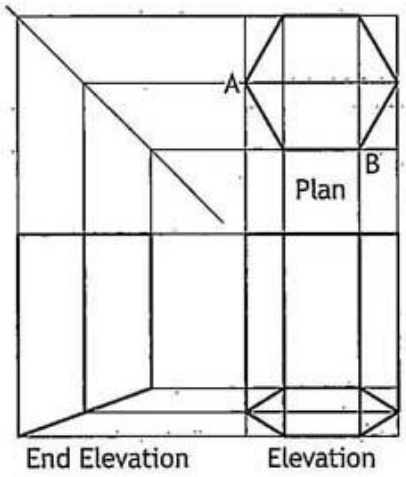
You should refer to the orthographic drawing below.

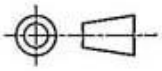
(i) When opened out at generator A, the correct surface development is view. 1

3 *Insert number*

(ii) When opened out at generator B, the correct surface development is view. 1

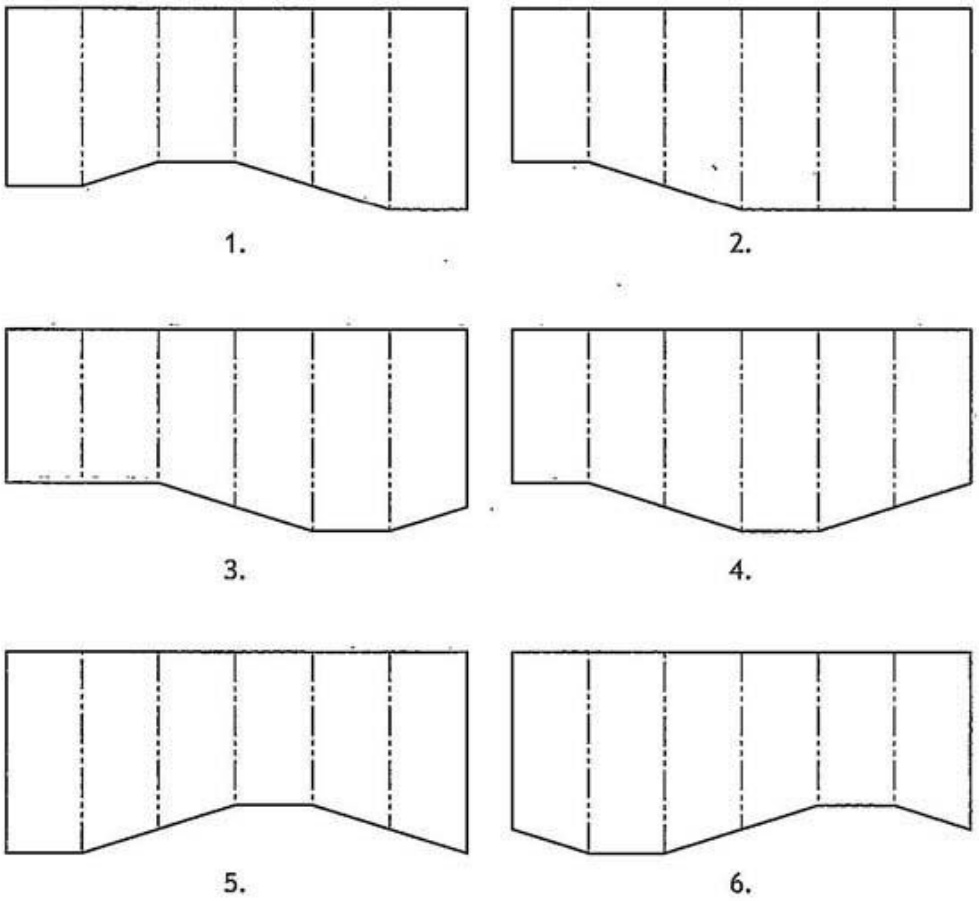
5 *Insert number*





1. (continued)

The range of surface developments are show below.



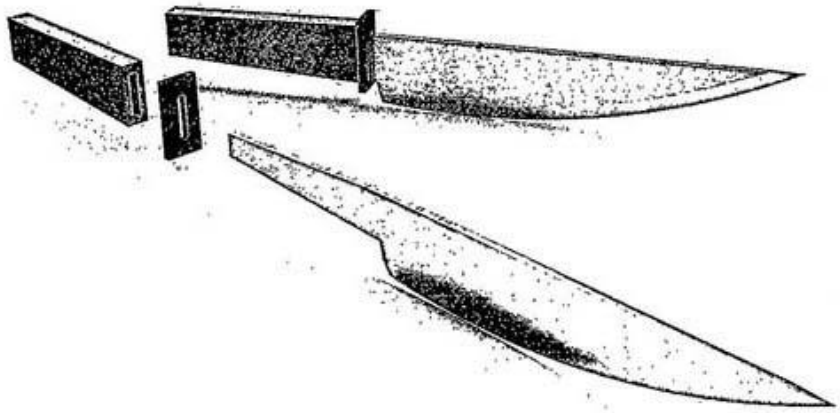
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

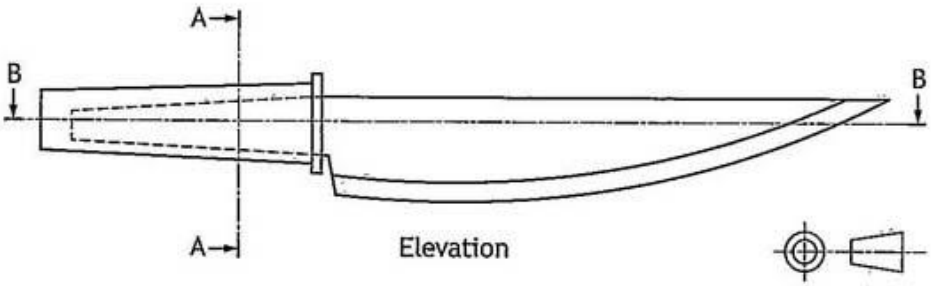
so that there is no or little waste of the product.

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

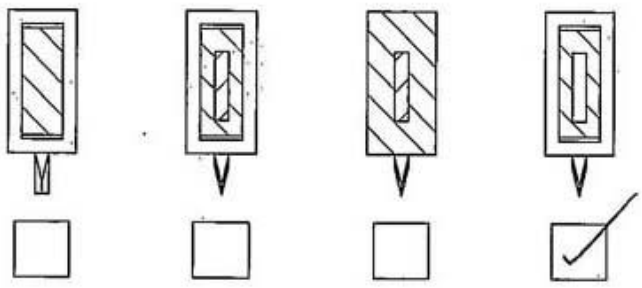


Plan



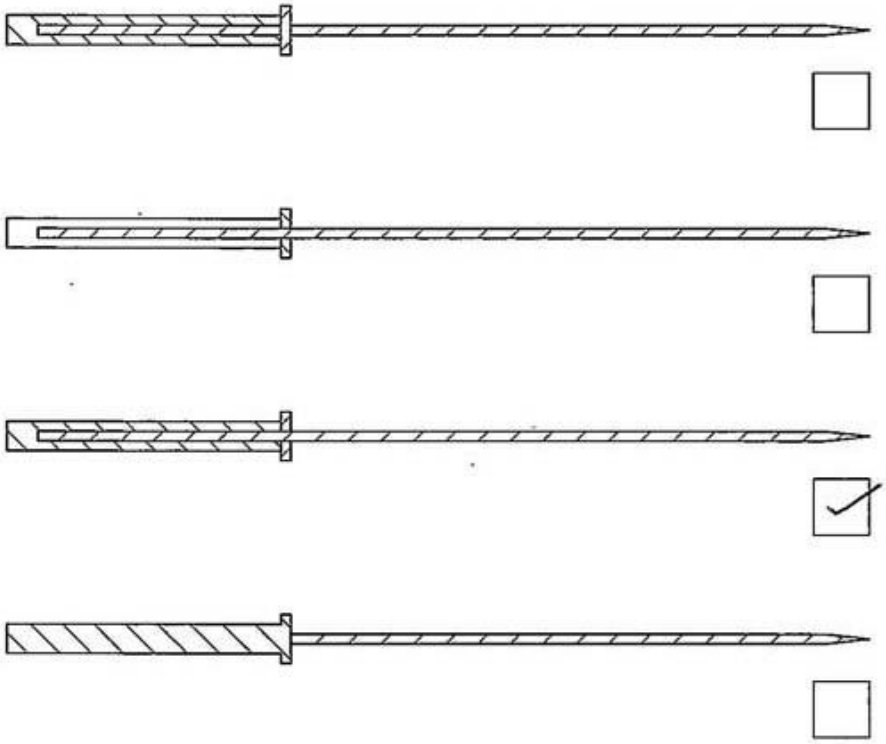
Elevation

(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. **1**

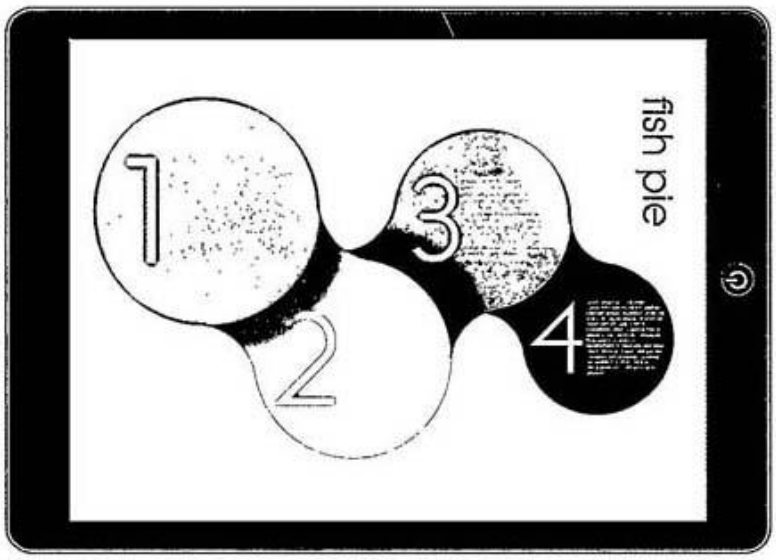


1. (i) (continued)

(ii) Identify the correct sectional plan **B-B** by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the **sequence** of the recipe shown above. 3

unity - by having the same fonts and ~~it~~ joining up each section

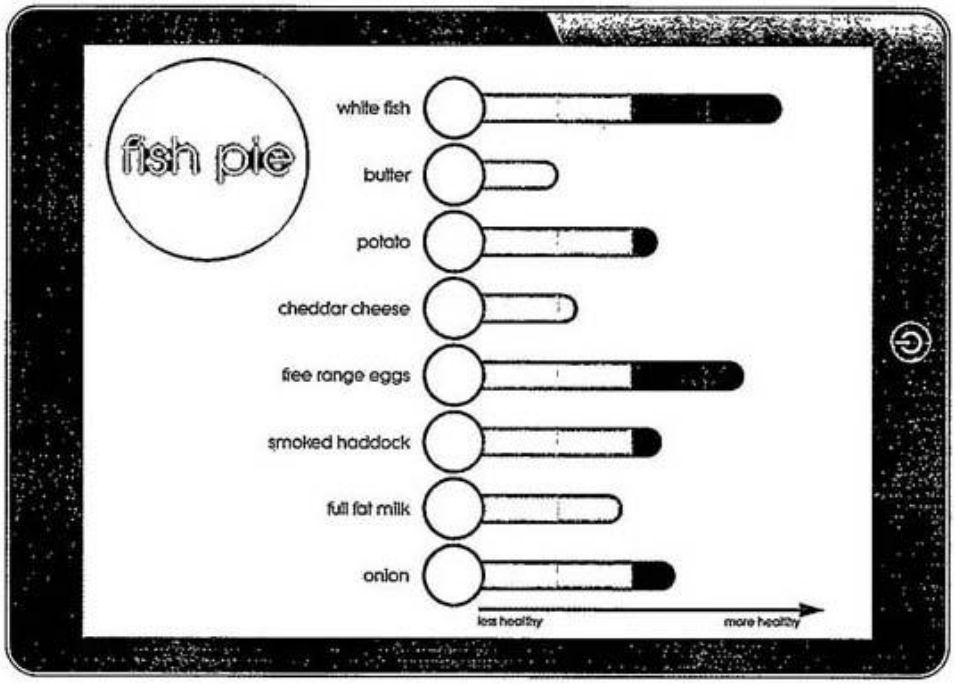
depth - by having ~~where~~ overlaping and drop shadows.

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

It would save on ink as the whole thing wouldn't have to be printed ~~and~~ there would be less usage of paper which would mean less trees have to be cut down.

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

bar graph

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

alignment- by having all the words aligned with each other and the bars.

2. **(continued)**

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A.** 1

poster

(ii) Explain why this is an appropriate type of informational graphic to present. 1

there is lots of information so would be best on a poster

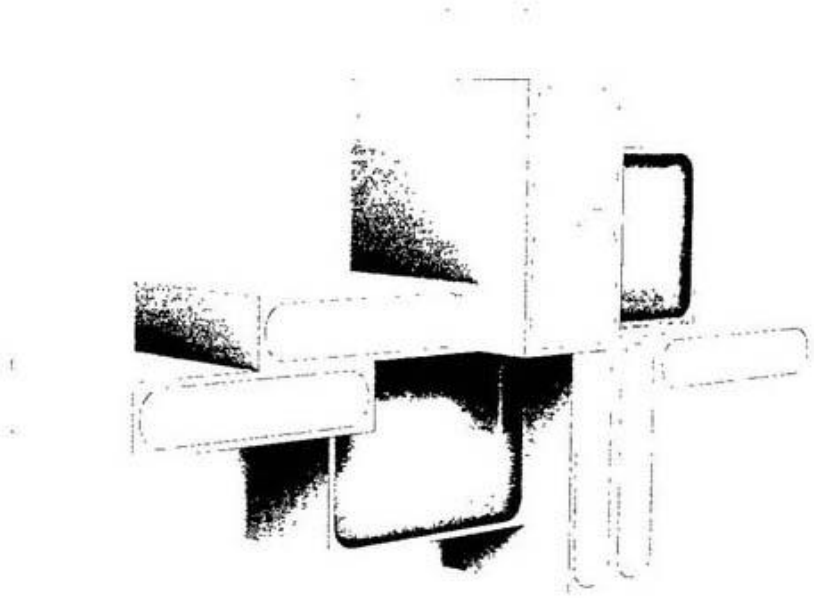
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B.** 1

Pie chart

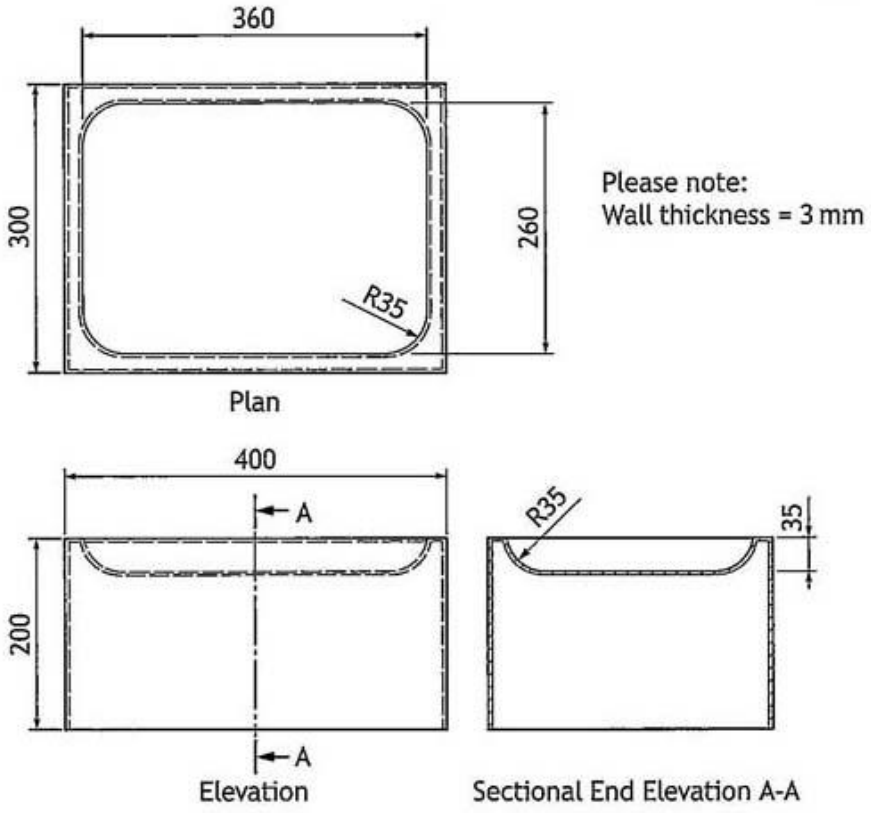
(ii) Explain why this is an appropriate type of informational graphic to present. 1

as it is percents so it will be easier to read.

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.



An orthographic drawing of one of the orange lighting pods is shown below.

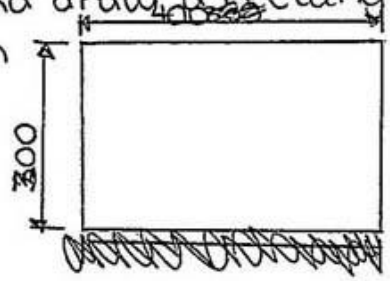


Please note:
Wall thickness = 3 mm

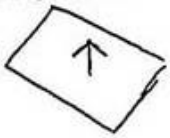
3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. **6**

1) create a sketch and draw a rectangle to dimensions shown 400mm x 300mm

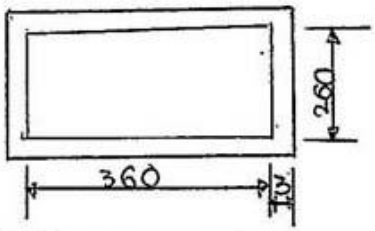


2) extrude by 200mm

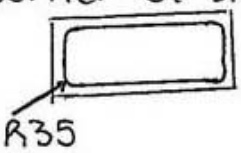


3) create another sketch on the top of rectangle

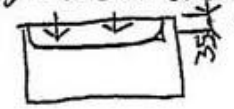
4) draw a rectangle to dimensions shown in profile below



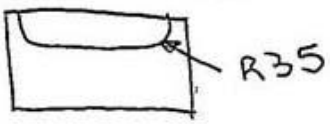
5) Fillet each corner of the new rectangle



6) subtract the rectangle by 35mm

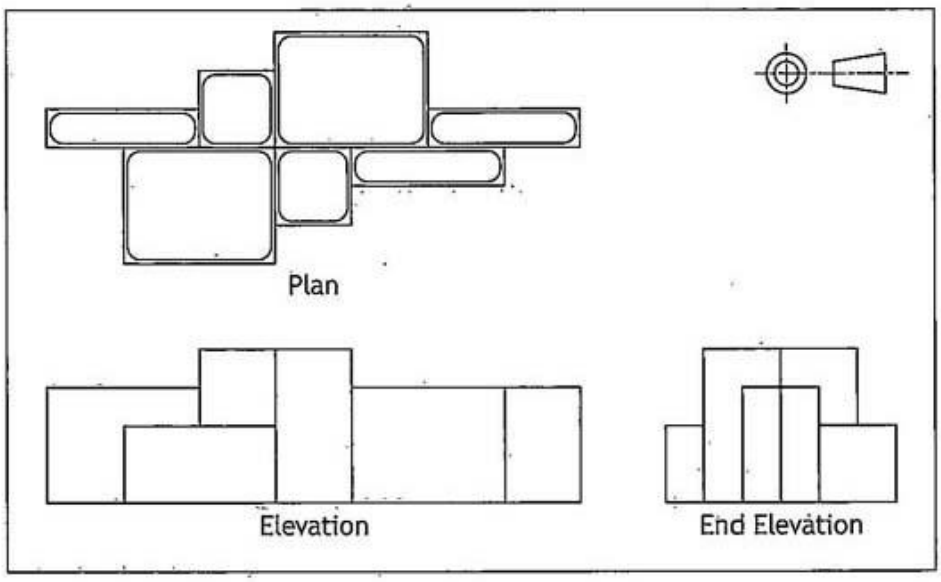


7) fillet the corners at bottom



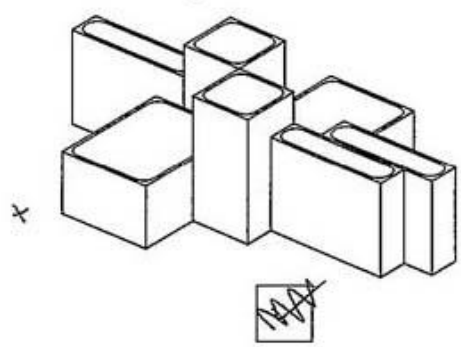
3. **(continued)**

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.

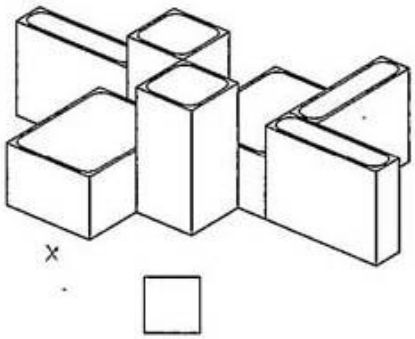


3. (continued)

(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement **in the orthographic assembly drawing shown.** 2



☐



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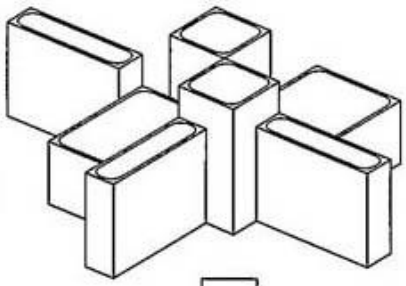

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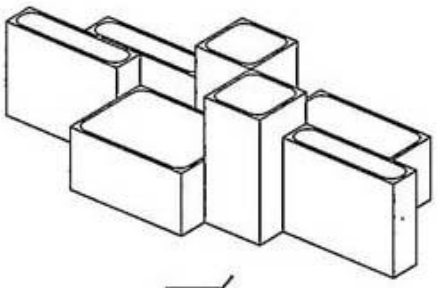

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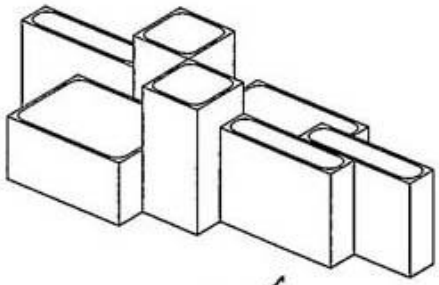

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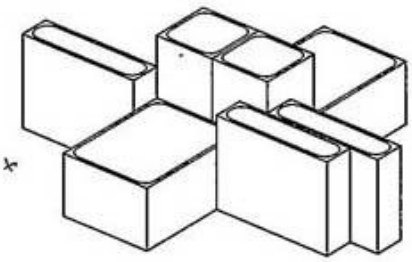
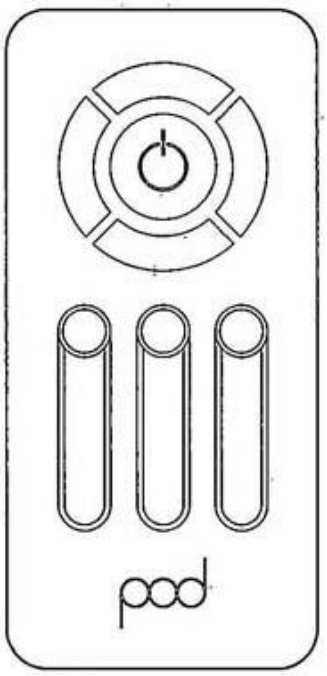


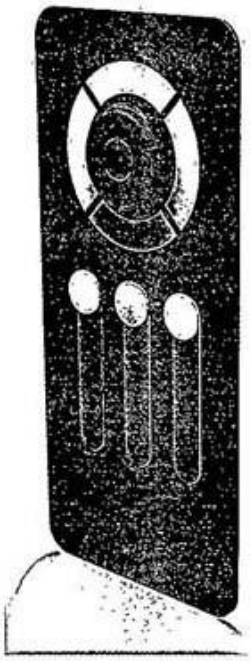
☐

3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

as it is quite a simple thing to draw so it is not worth getting the computer and inventor all set up when you could have drawn it in that time.

(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

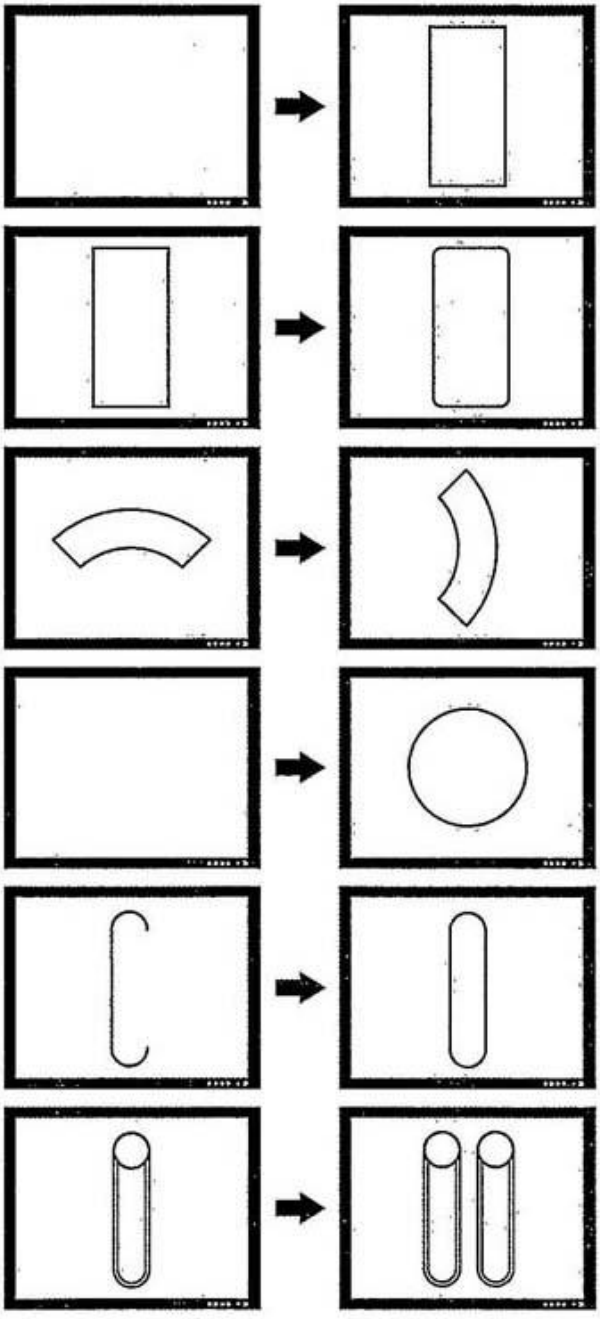
dosent take up as much physical space

nobody needs to be trained for a 2D drawing.

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the **single** CAD tool used in **each case.** 6



(i) Tool used
rectangle

(ii) Tool used
fillet

(iii) Tool used
rotate

(iv) Tool used
circle

(v) Tool used
join

(vi) Tool used
mirror

3. (continued)

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

center line

(ii) A continuous thick line 1

out line

(iii) A long dash dotted thin line, thick at ends. 1

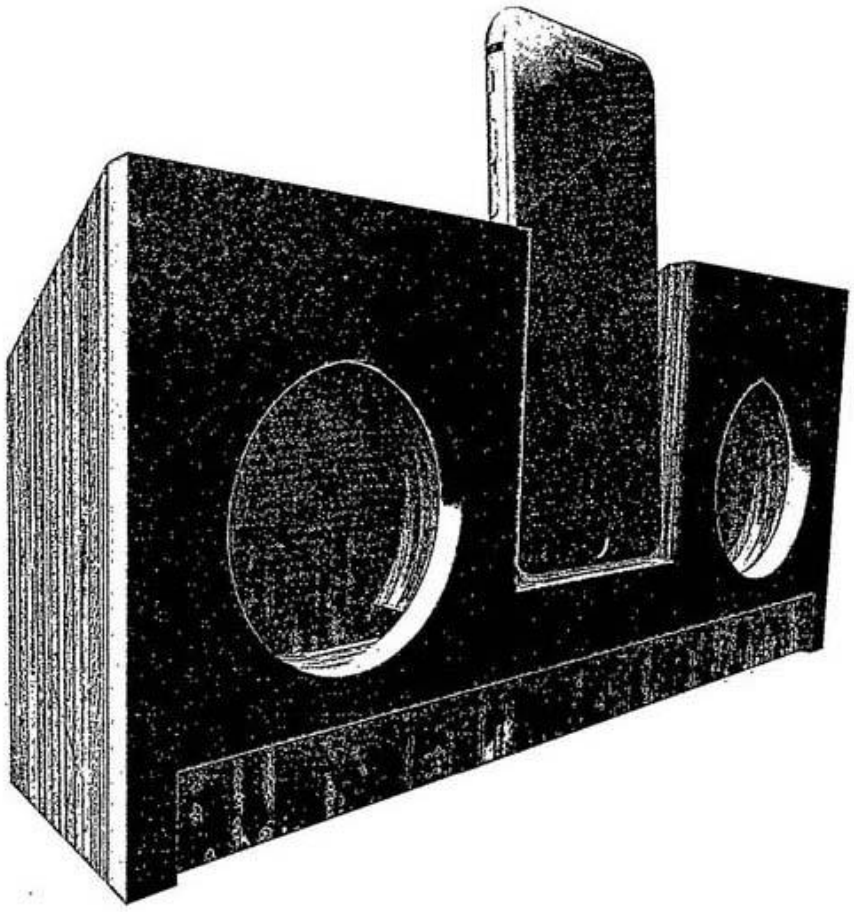
cutting plane

The 2D CAD drawings are to be drawn using a scale.

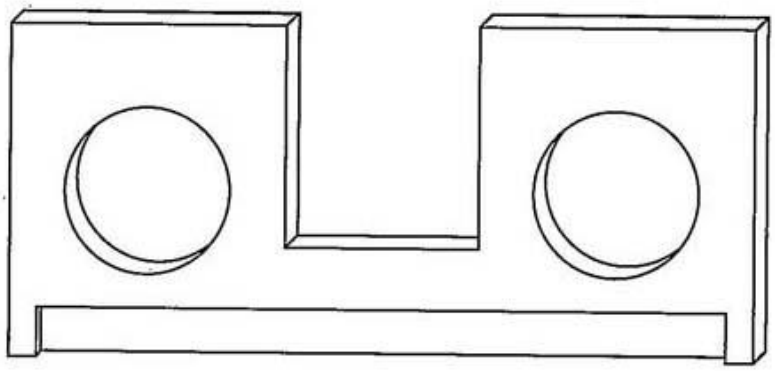
(g) Explain what is meant by the term scale 2:1. 1

For every 1 mm drawn would be 2mm in real life

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

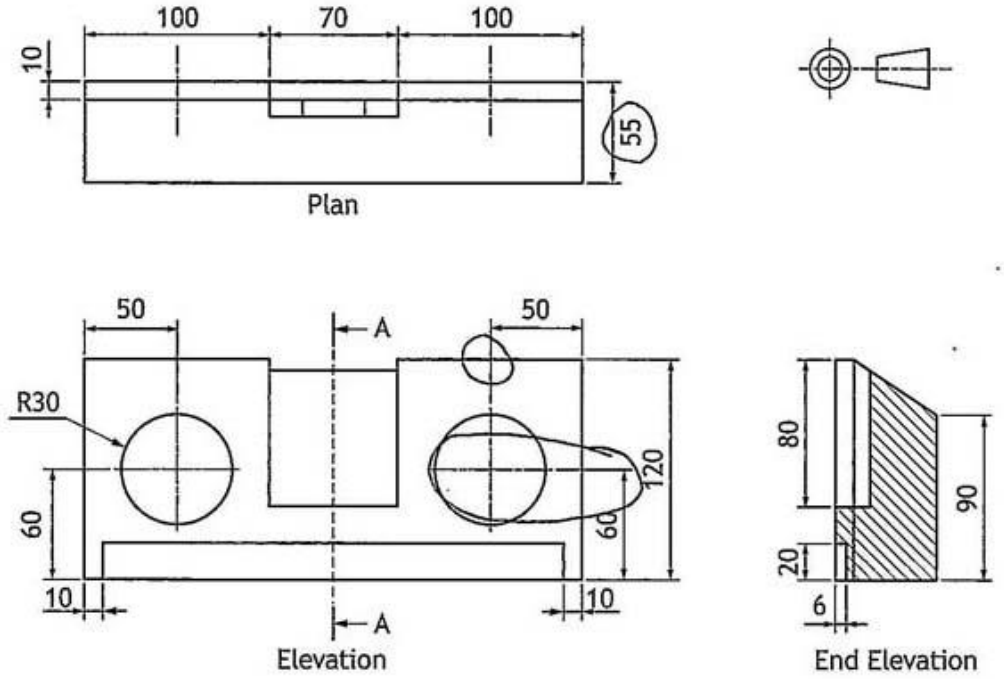


(a) State the type of pictorial view shown above. 1

oblique

4. **(continued)**

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

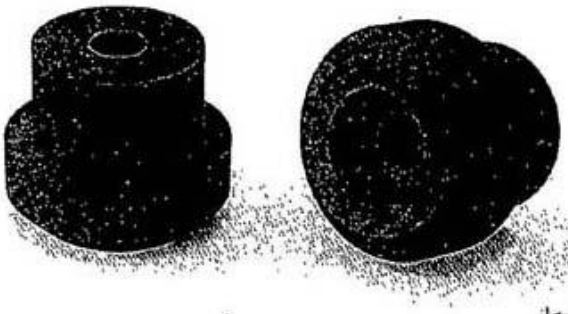
(b) State the five errors found in this drawing. **5**

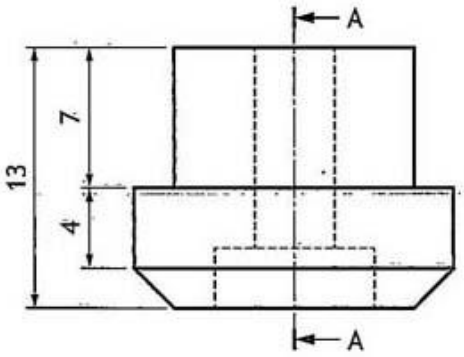
You may annotate the orthographic drawing to support your answer.

1) numbers dimensioned underline
2) projection lines attached to drawing
3) center lines used as projection lines
4) incorrect hatching
5) there is a cutting plane but no sectional elevation.

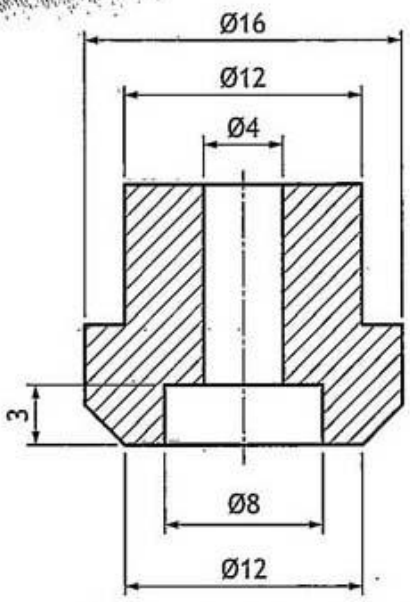
4. (continued)

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation



Sectional End Elevation A-A

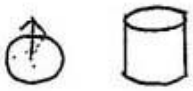
4. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

You may use sketches to support your answer.

1) create sketch and draw circle ø16 in center

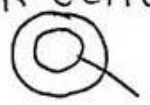
2) exdrude by 6mm

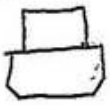


3) chamfer the 2 bottom corners

4) create a sketch on top and draw a circle ø12 in center

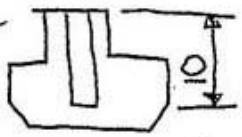
5) exdrude by 7mm





6) create sketch on bit that was extruded and draw circle ø4 in center

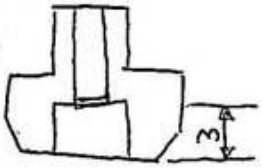
7) subtract by 10mm



8) on opposite side (the bottom) draw circle ø8

in the center

9) subtract by 3mm



4. (continued)

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

dont have to wait for it to be delivered through the post

dosent cost any money to share online

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

(f) Explain the purpose of the following types of production drawings.

(i) Sectional views to show what the inside of a part looks like 1

(ii) Assembly drawings to show the final thing all in one piece. 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.

5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

line has been used to create depth by having a line behind heading and in front of image.

(ii) Dominance 2

dominance has been used by making the title and ~~in~~ circles the biggest things on the page.

(iii) Colour 2

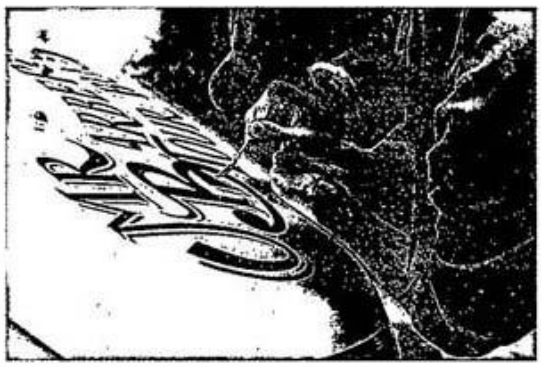
they have used mainly one colour but made different tints of it (e.g blue and a lighter blue).

(iv) Unity 2

unity has been used by having numbers in the background showing it all links together as well as using the same colours throughout.

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.



Traditional painting technique

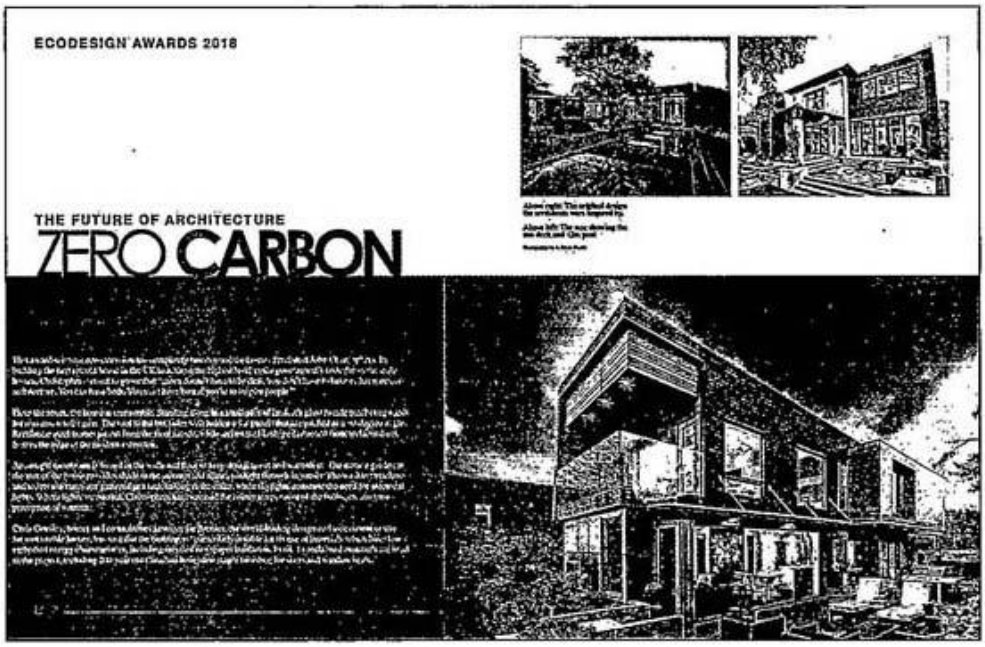
Modern printed technique

(b) Describe two advantages to the client of modern printing techniques over traditional painting techniques. 2

It dosent require as much skill

It speeds the process up alot.

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.



The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

use reverse text a light colour on dark background.

(ii) *The large column of extended text makes it difficult to read* 1

(iii) *The bottom image would look better without the sky in the background* 1

use a cropped image

(iv) *The body text is too close to the edge of the paper* 1

align the text with the heading.

6. **(continued)**

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

It looks like quite a formal font.

it is a simple and easy to read font.

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

drag the corner of the image.

6. **(continued)**

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines**.

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

1) guidlines show you where to put the items on the page so it stops you just placing stuff anywhere

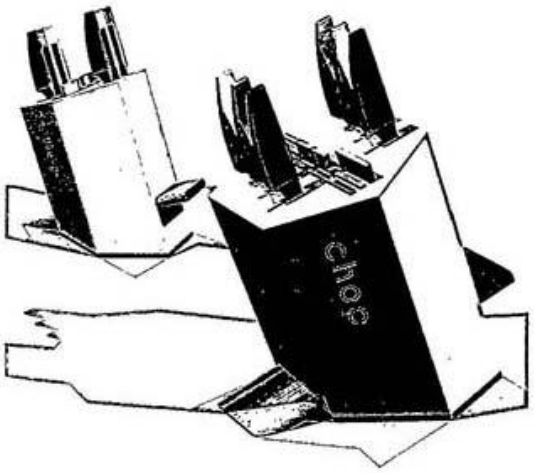
2) it makes the layout look more organised.

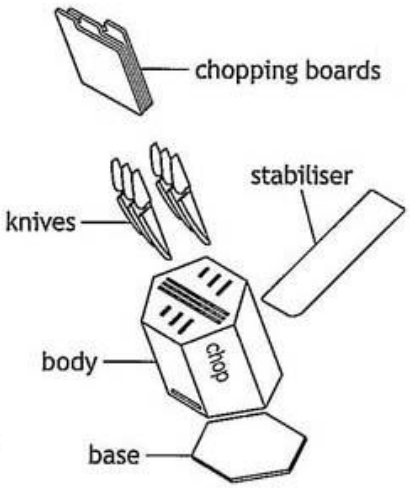
Candidate 5 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.





A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

You can make changes to the design

You dont have to spend money producing a CAD model

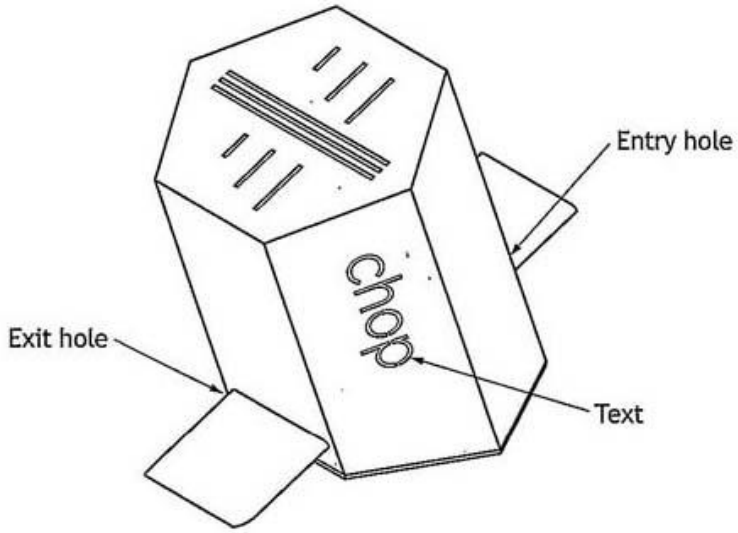
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

A symetrical (guess) :-

1. **(continued)**

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

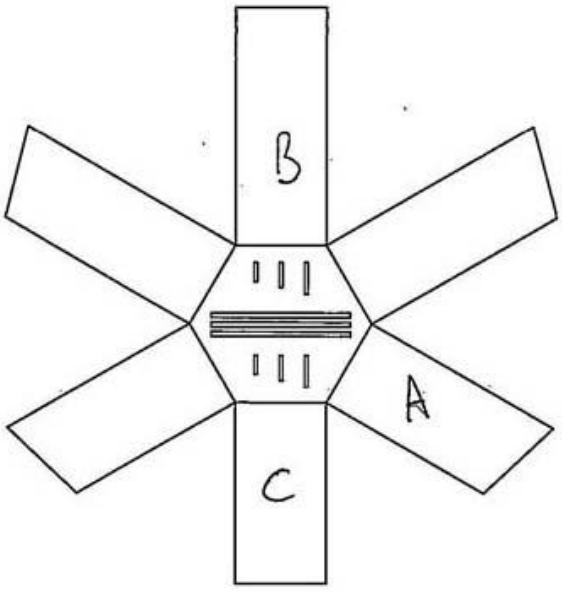


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use **A** to indicate on the panel where the Text would be located.

Use **B** to indicate on the panel where the Entry hole would be located.

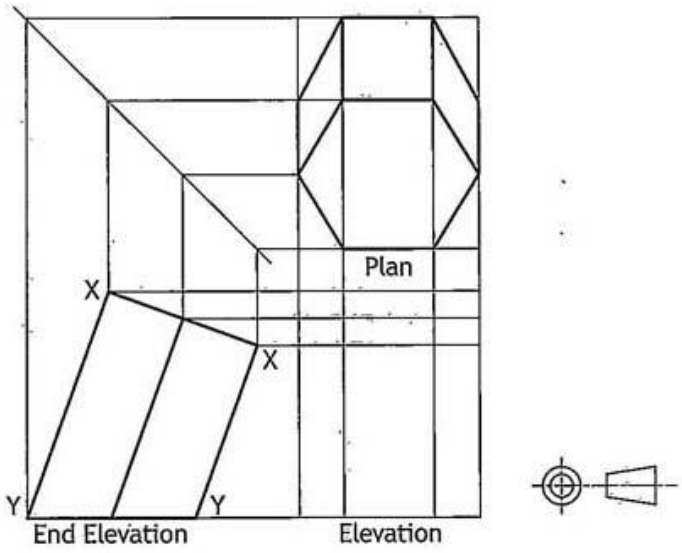
Use **C** to indicate on the panel where the Exit hole would be located.



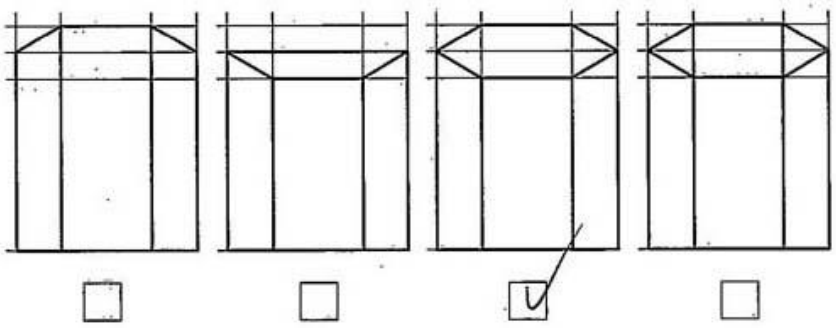
1. **(continued)**

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

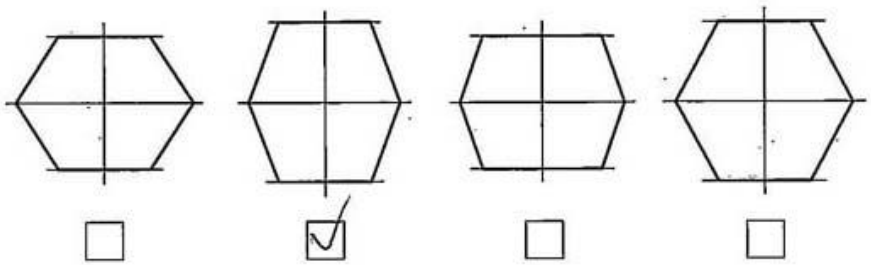


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



A true shape of surface X–X was required.

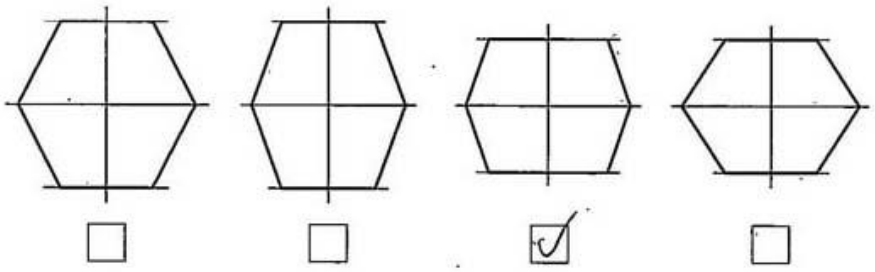
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



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1. **(continued)**

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

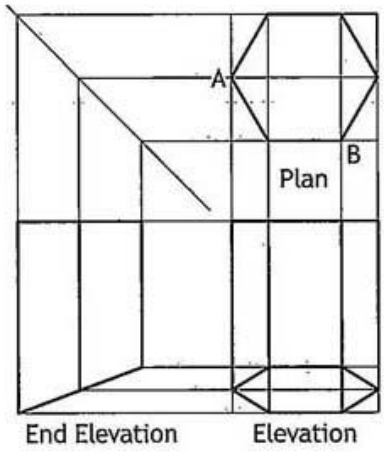
You should refer to the orthographic drawing below.

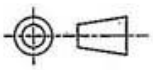
(i) When opened out at generator A, the correct surface development is view. 1

[5] *Insert number*

(ii) When opened out at generator B, the correct surface development is view. 1

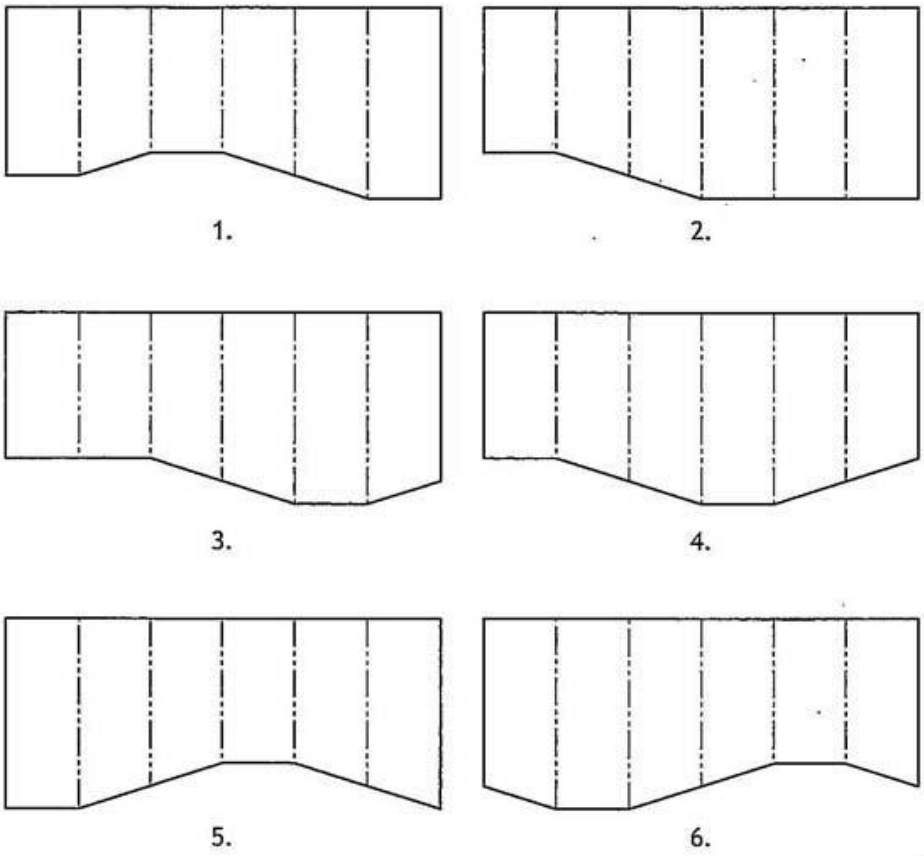
[1] *Insert number*





1. **(continued)**

The range of surface developments are show below.



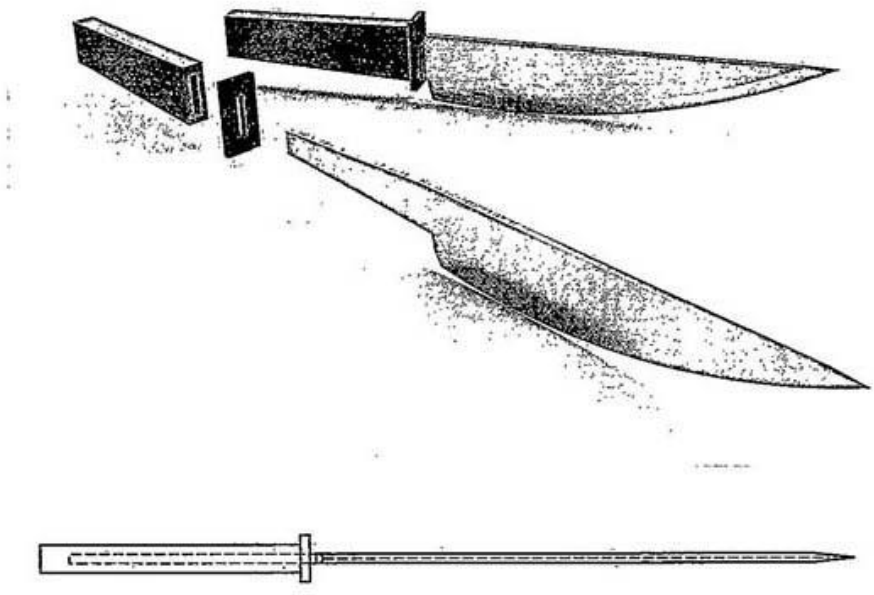
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

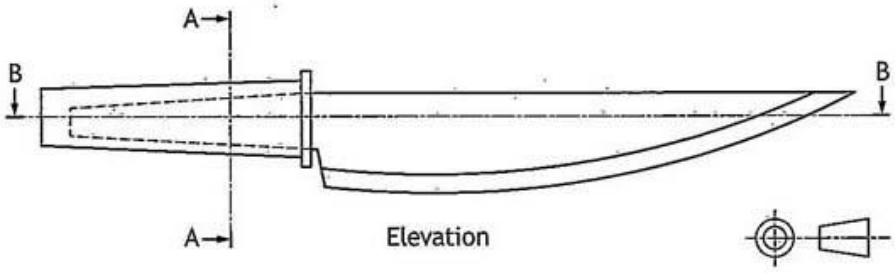
to save material & reduce waste

1. (continued)

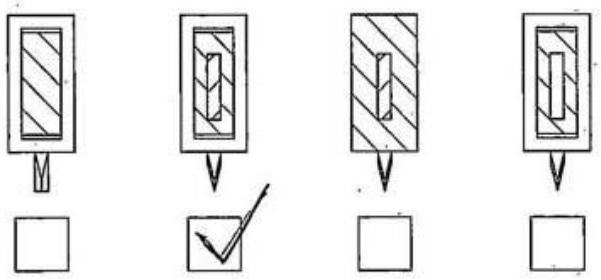
(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.



Plan

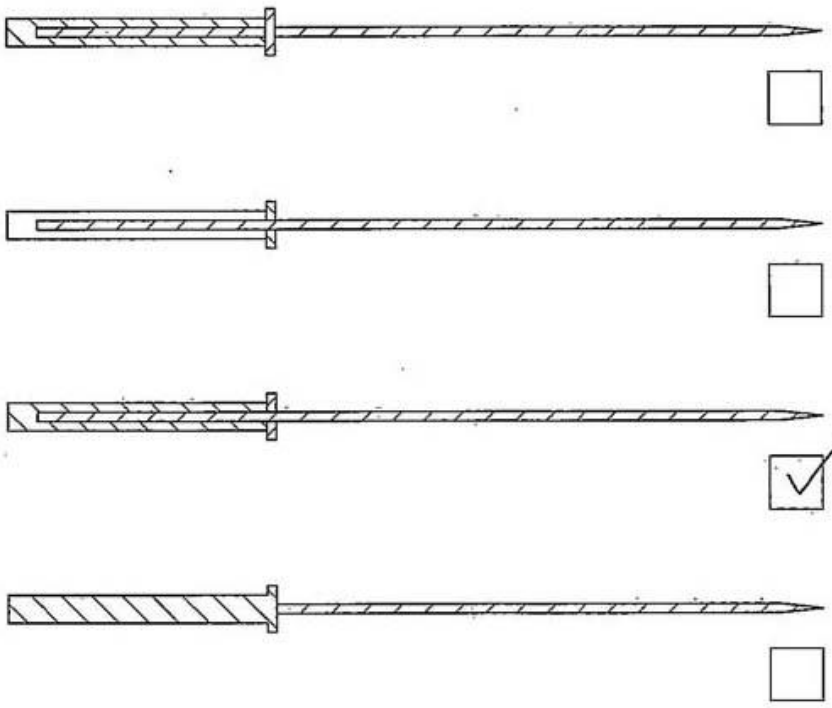


(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. 1

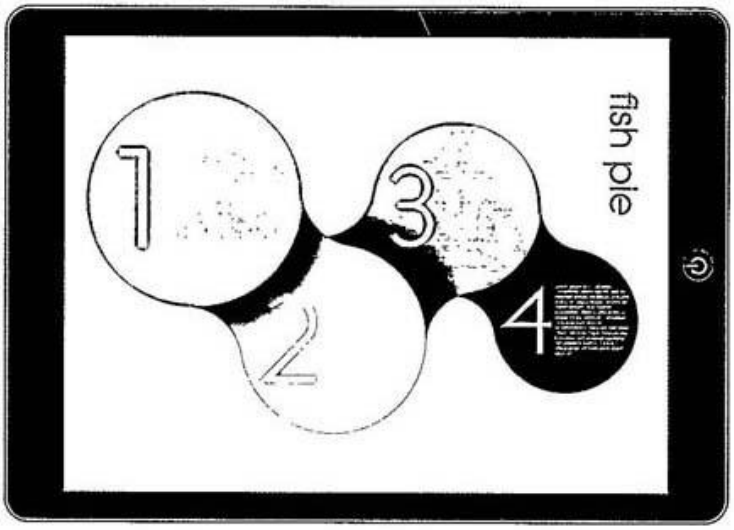


1. (i) (continued)

(ii) Identify the correct sectional plan **B**-B by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the **sequence** of the recipe shown above. 3

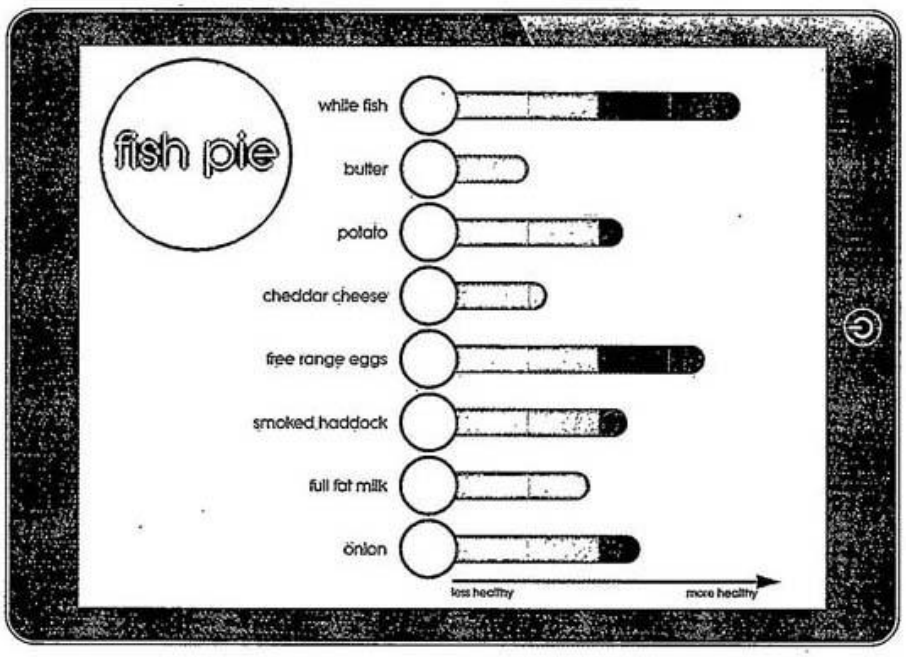
the artist has used colors going from receding colours to advancing colours. the use of shadow also helps as it's shows the direction to follow.
we also read left to right & this is the order he has put it in

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

you dont need to chop down trees to produce paper.
you dont need to produce inks

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

bar graph

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

the greener the bar goes the healthier the ingredient

2. (continued)

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A**. 1

Scatter graph

(ii) Explain why this is an appropriate type of informational graphic to present. 1

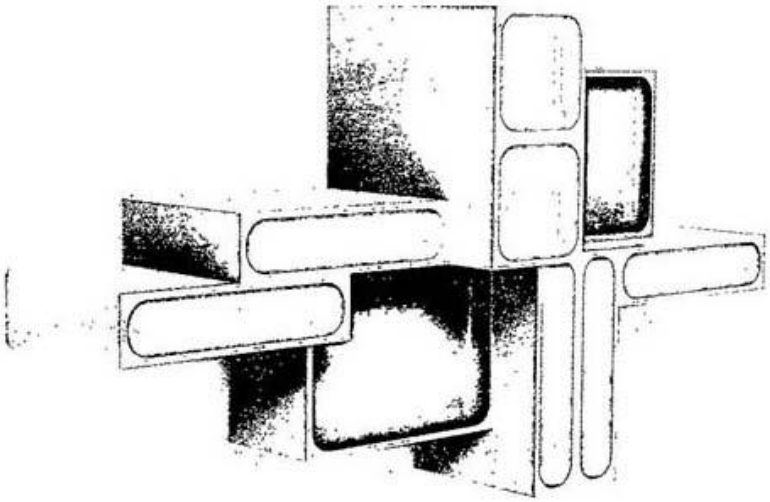
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B**. 1

pie chart

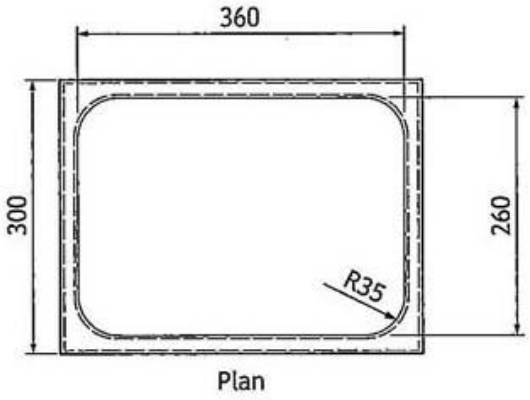
(ii) Explain why this is an appropriate type of informational graphic to present. 1

the total is 100% & also the stats are allready in percentage

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

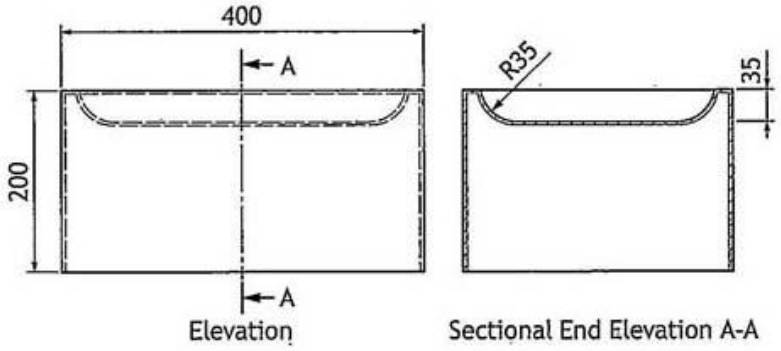


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm



Elevation

Sectional End Elevation A-A

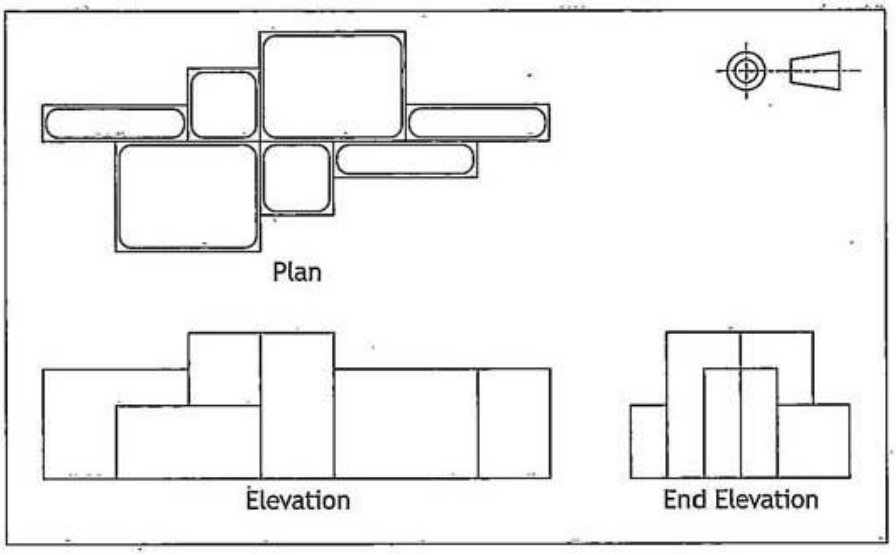
3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. **6**

Start Sketch & choose appropriate plane
then using the line tools draw a 300 × 400
box. finish sketch, now extrude by
200mm. Now select one of the 300 × 400
faces & draw a box using the line tool
360 × 260; now use the arc tool on the corner
at a radius of 35 to cut the orig and lines.
finish sketch & extrude again but this time
subtract by 85, after which go on fillet
& fillet to inside edges at a radius of
35. finally shell the inside of the pod
to 3 mm thickness

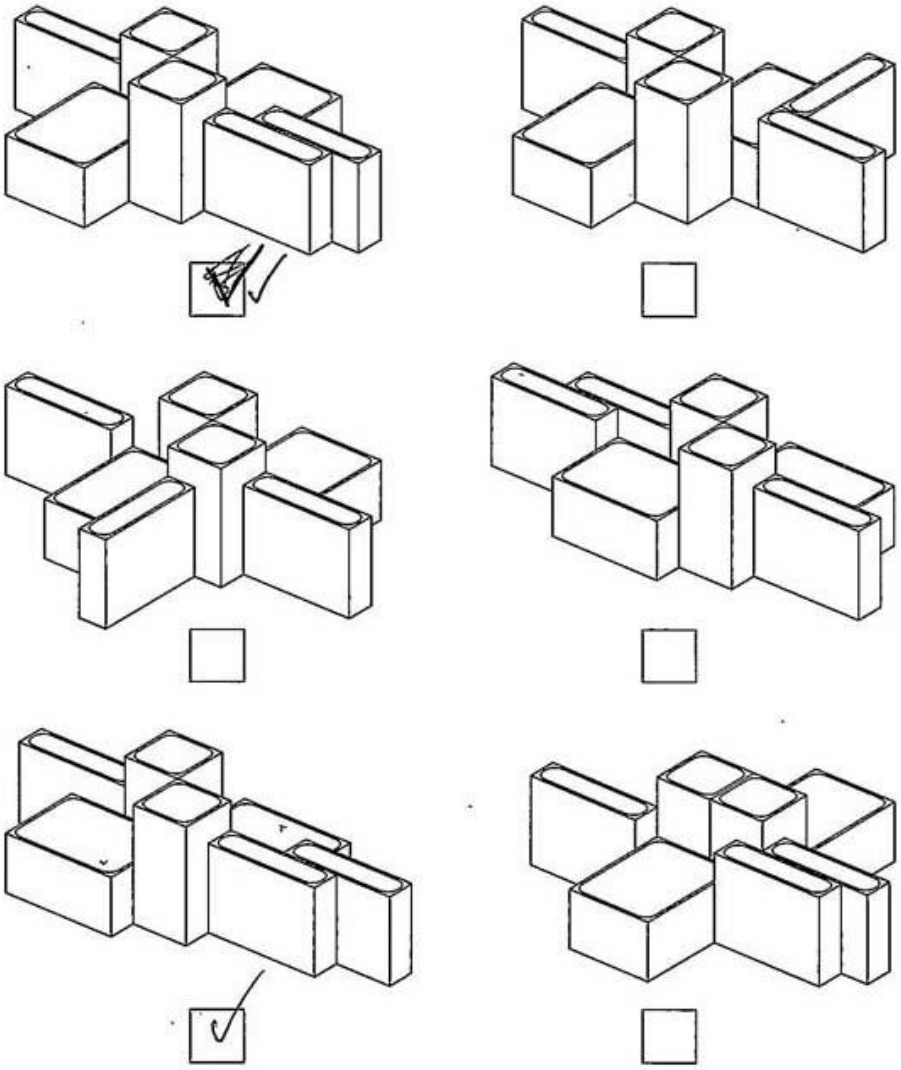
3. (continued)

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.



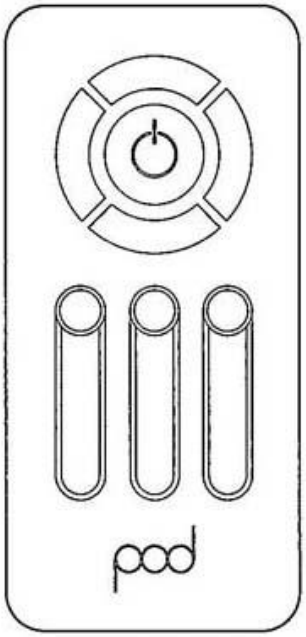
3. (continued)

(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement **in the orthographic assembly drawing shown.** 2

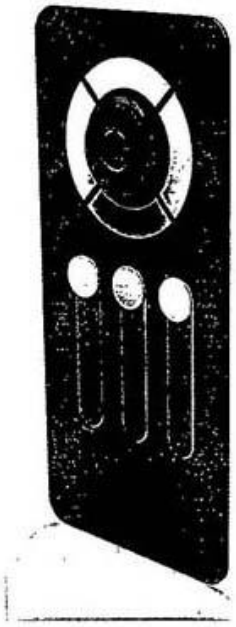


3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

You dont need to extrude & use other feats like change fillet ect for 2D

(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

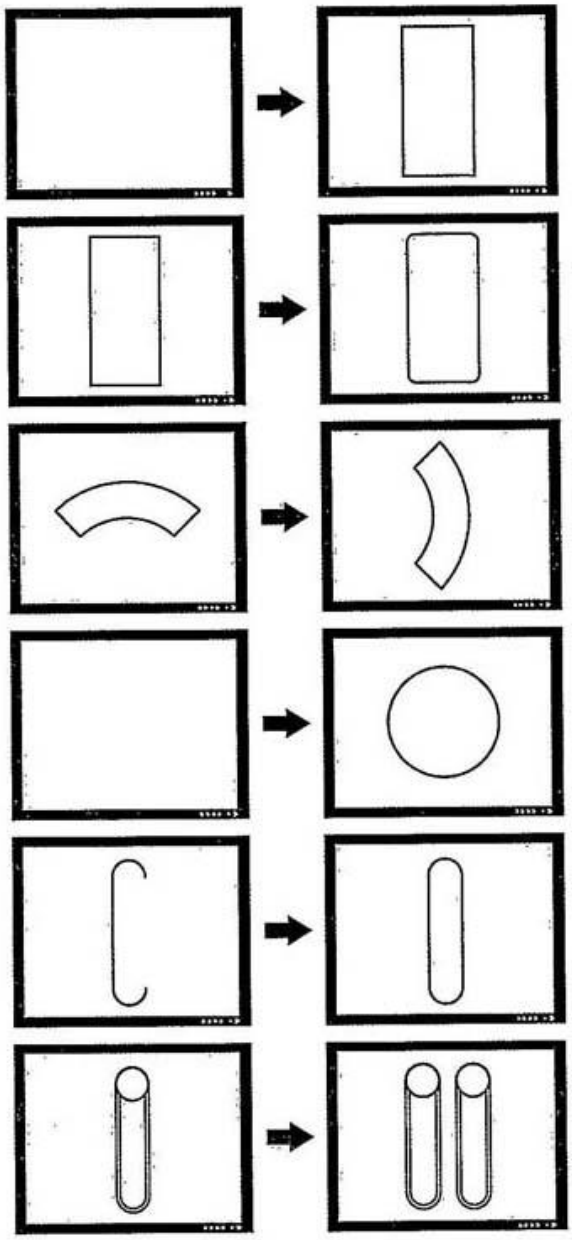
more detailed than 2D

More Professi

3. **(continued)**

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the **single** CAD tool used in **each case.** 6



(i) Tool used
line

(ii) Tool used
arc
~~circle~~

(iii) Tool used
revolve

(iv) Tool used
circle

(v) Tool used
cut

(vi) Tool used
duplicate

3. (continued)

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

fold line

(ii) A continuous thick line 1

out line

(iii) A long dash dotted thin line, thick at ends. 1

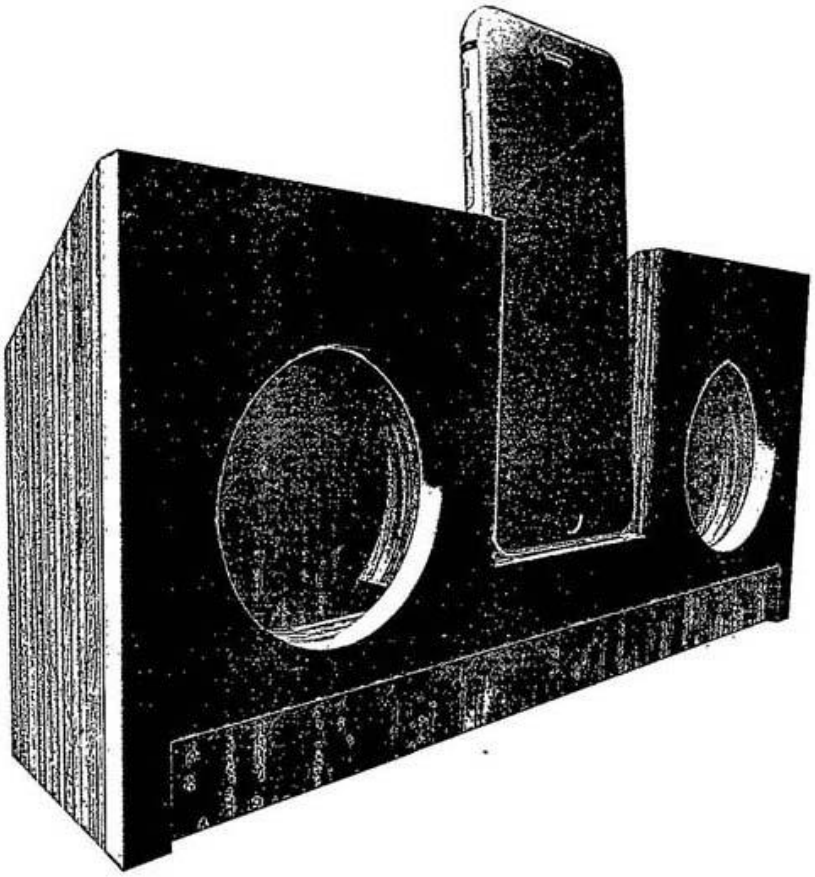
centre line

The 2D CAD drawings are to be drawn using a scale.

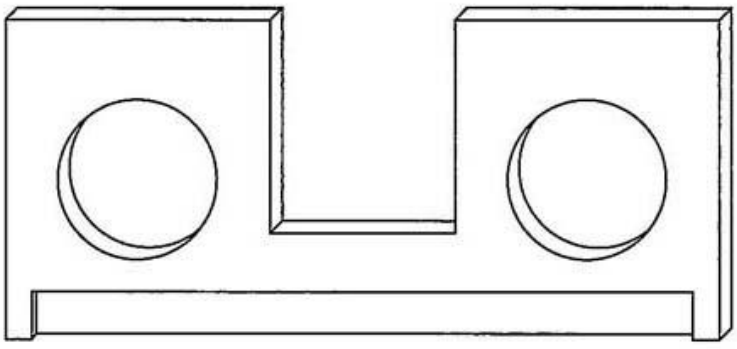
(g) Explain what is meant by the term scale 2:1. 1

2:1 = 2x1 = double the size of actual model

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

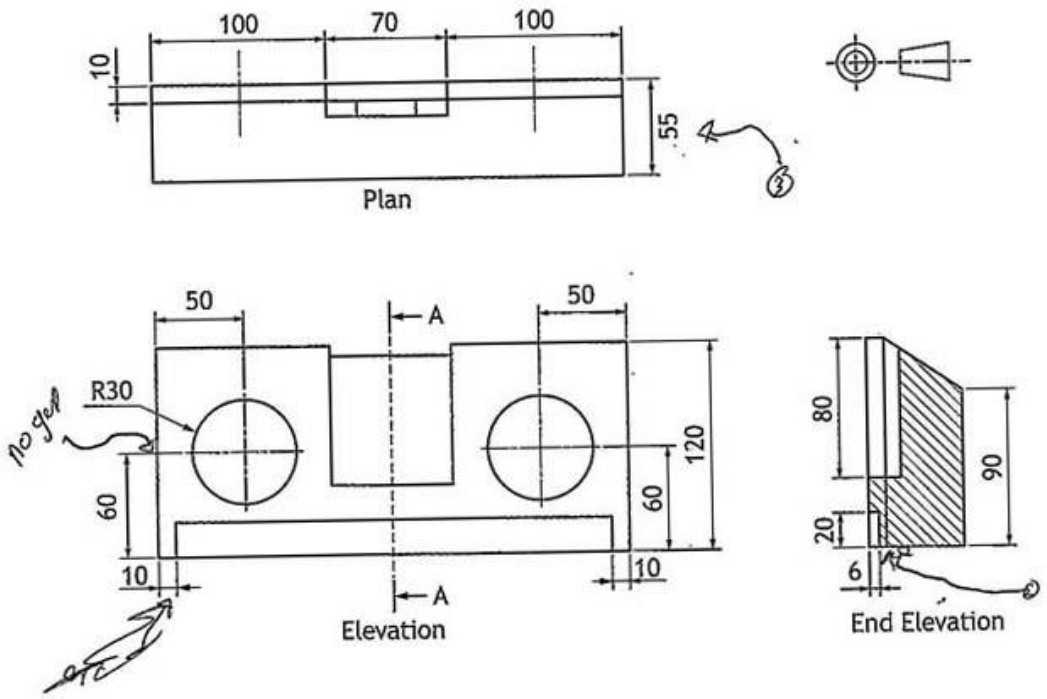


(a) State the type of pictorial view shown above. 1

Iso metric

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

(b) State the five errors found in this drawing. 5

You may annotate the orthographic drawing to support your answer.

① No gap on some dimension

② hatch lines are the same, but should be different

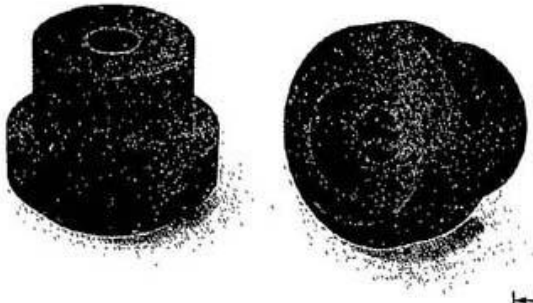
③ not above the dimension line

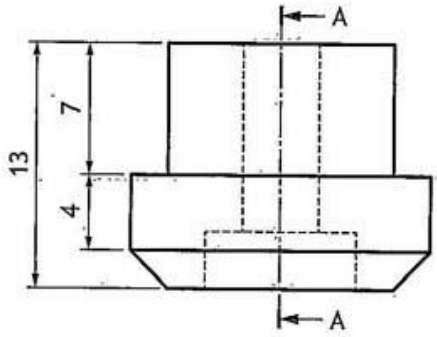
no hidden line

centre line dont go all the way through the material

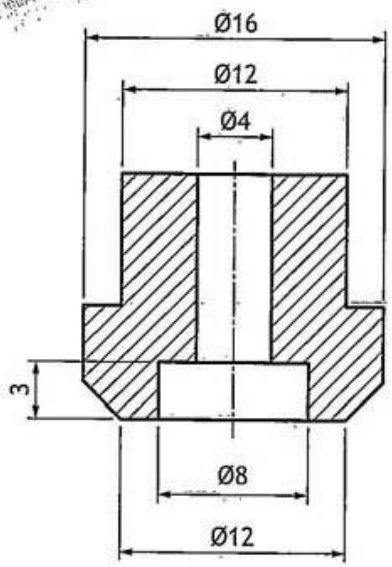
4. **(continued)**

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation



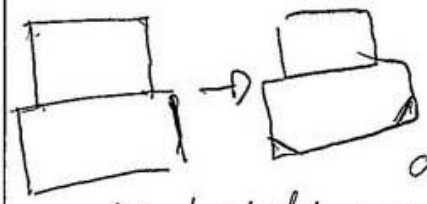
Sectional End Elevation A-A

4. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

You may use sketches to support your answer.

start sketch, select appropate plain the
treat using the circle tool a 16 diameter
circle, finish sketch & extrude it by 6 mm
now start a new sketch & creat a circle with a
12 diameter from the circle & extrude 7mm
no diameter the top of the 16 diameter circle by 2mm



now on the end of
12 diameter circle
draw a 4 diameter hole
now finish sketch now extrude both subtract 10 mm
now at the top of the 16 diameter circle
draw a 8 diameter hole & finish sketch
subtract 3mm.

4. **(continued)**

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

extend your market.

~~shopping~~ shops may see it & offer to buy or see your product

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

the companys can understand & produce the product.

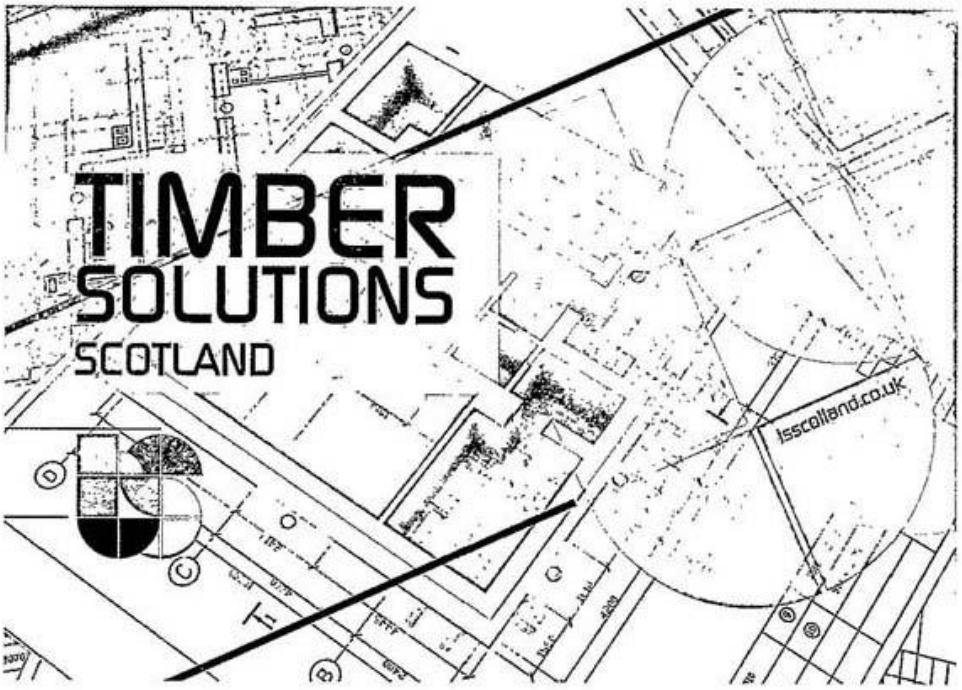
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views to see inside the product 1

(ii) Assembly drawings to see the seperate produc 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line **2**

evey thing is seprate by a line in bubble font.

he has used blue lines across the page & on the logo

(ii) Dominance **2**

the "timber solution scotland" domenant as its a diffrent colour which uses contrast.

the large "ts" is domenant as it is the bigest thing on the page

(iii) Colour **2**

the designer has used blue & brown thorgh the poster which creats contrast.

he also uses differ shades & tints of blue

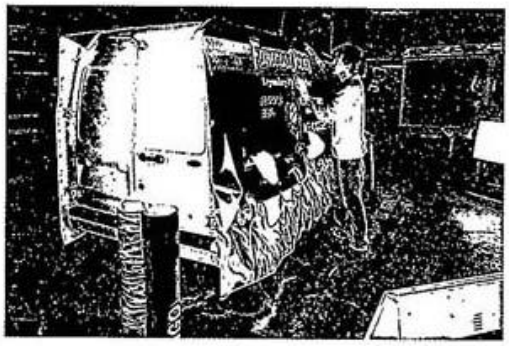
(iv) Unity **2**

the uses of diffrent types of blue

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.

Traditional painting technique

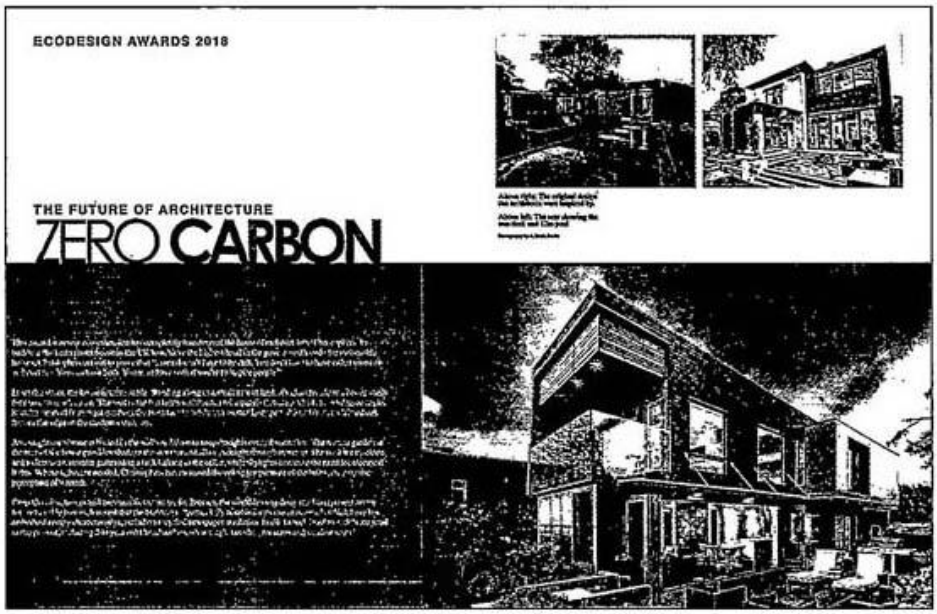


Modern printed technique

(b) Describe two advantages **to the client** of modern printing techniques over traditional painting techniques. 2

having it printed instead of painted is better for a chariot as it is cheaper due to you not having to pay for a person to sit there for hours paint & for the print itself. It is also quicker as it could take days to process paint & for it to then dry, which the prints just need to set & stick

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.



The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

~~Use~~ change the colour to white to create contrast

(ii) *The large column of extended text makes it difficult to read* 1

Shorten the text & make the colum smaller

(iii) *The bottom image would look better without the sky in the background* 1

~~Crop~~ the crop the sky out of the photo & replace with white background

(iv) *The body text is too close to the edge of the paper* 1

centre the text

6. **(continued)**

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

formal text which is also easy & clear to read

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

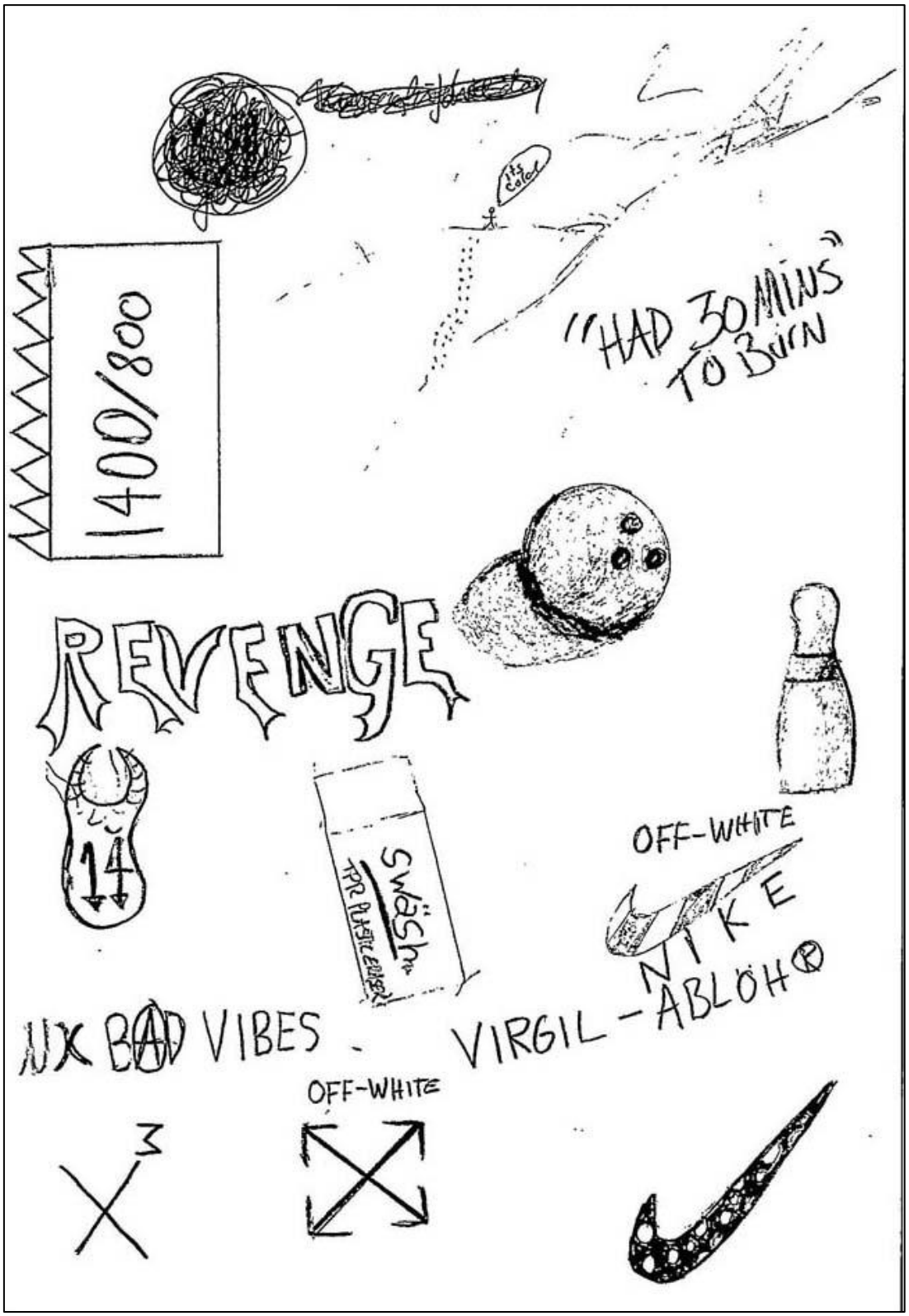
Using the images scale

6. (continued)

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines.**

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

dont need to be fully edited,
universal guide means it could be used internationally

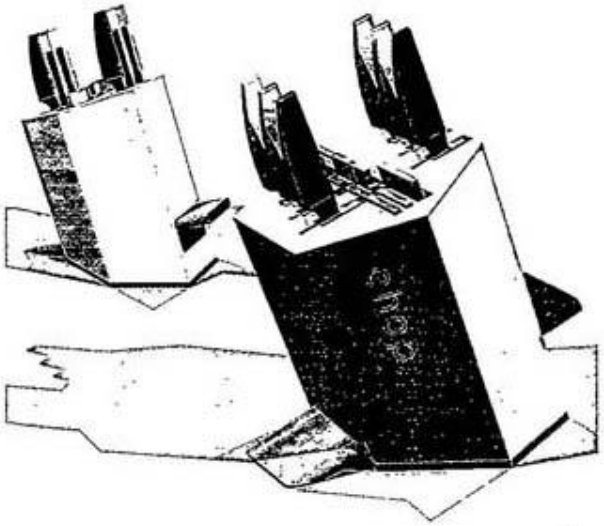

1400/800
"HAD 30 MINS TO BURN
REVENGE
14
SWOOSH
TPR PLASTIC ERASER
OFF-WHITE
NIKE
ABLOH
VIRGIL
BAD VIBES
OFF-WHITE

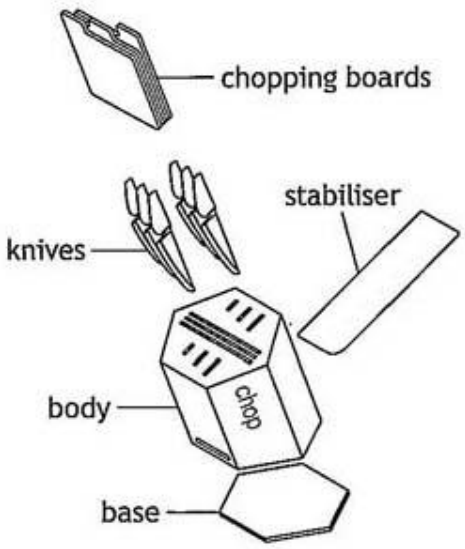
Candidate 6 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.





A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

Sizes and colours are easier to change on a CAD model.
The model can be emailed to anywhere in the world

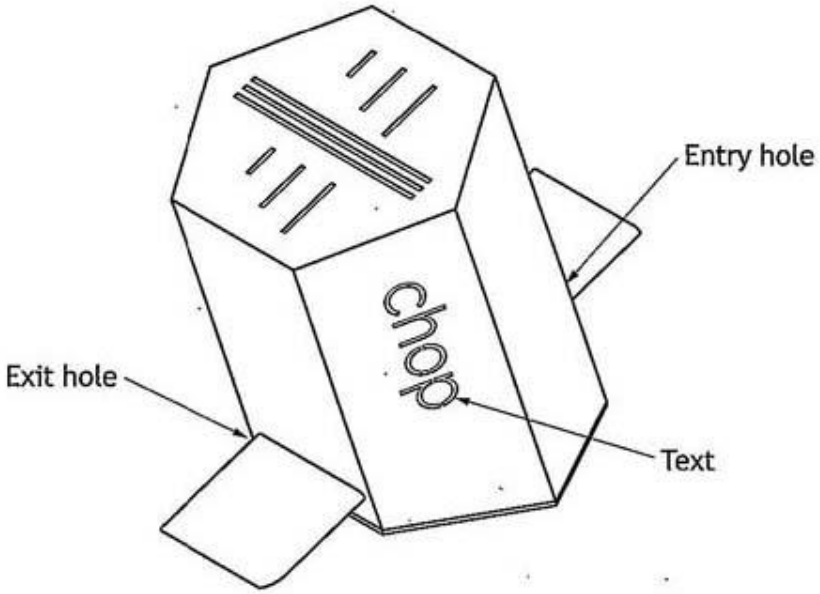
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

Across flats

1. (continued)

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

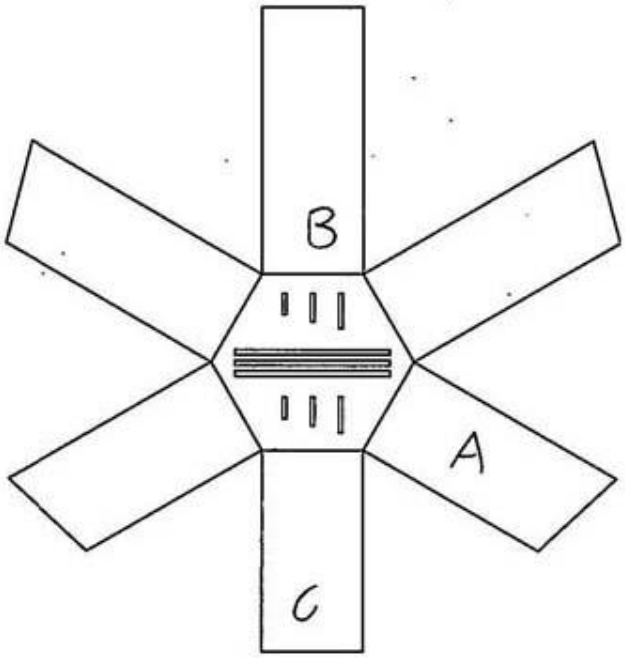


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use **A** to indicate on the panel where the Text would be located.

Use **B** to indicate on the panel where the Entry hole would be located.

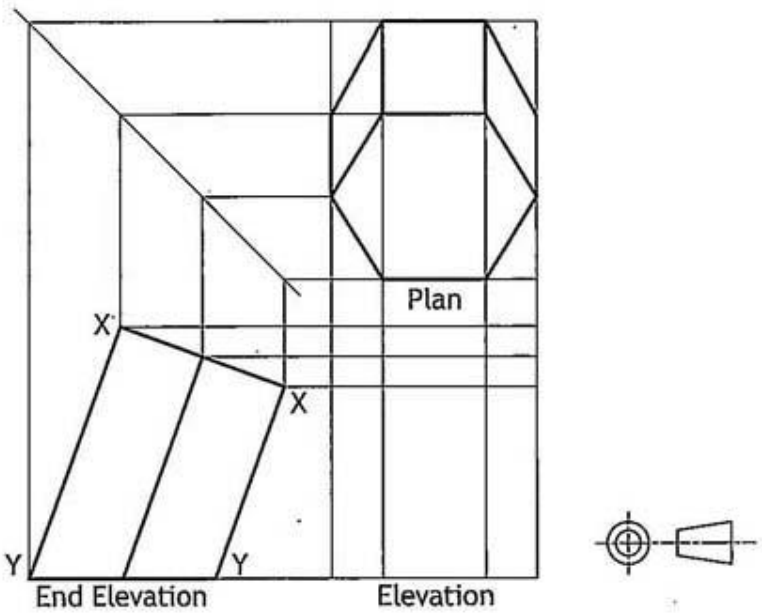
Use **C** to indicate on the panel where the Exit hole would be located.



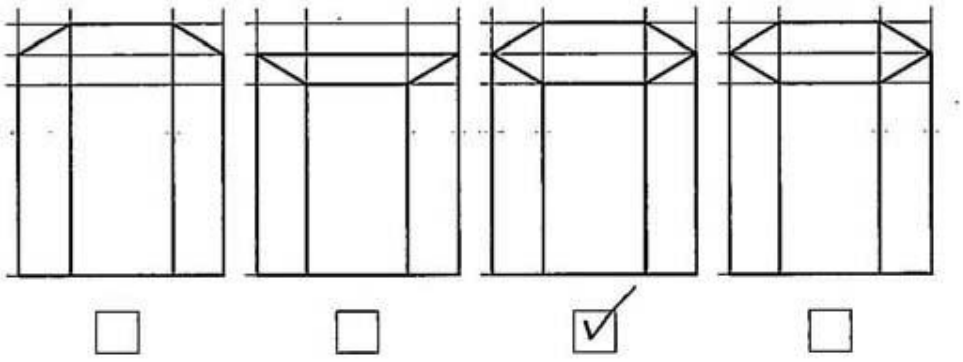
1. (continued)

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

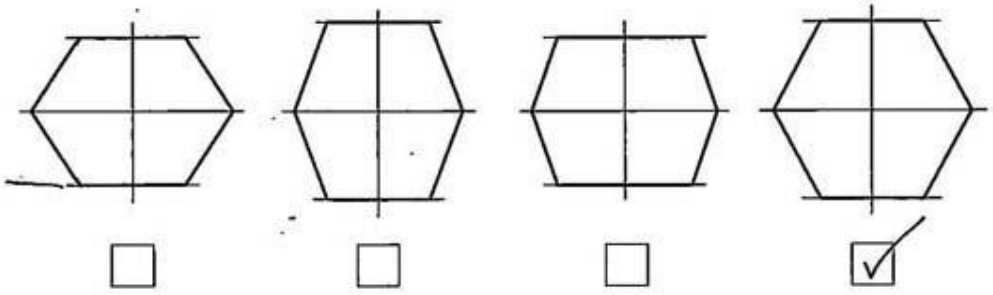


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



A true shape of surface X–X was required.

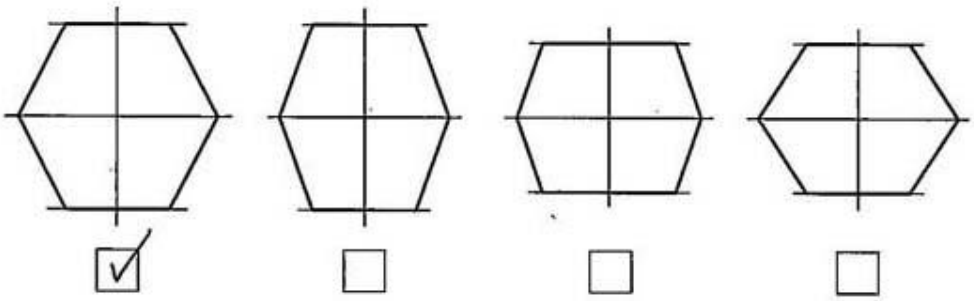
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. **1**



☑ ☐ ☐ ☐

1. **(continued)**

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

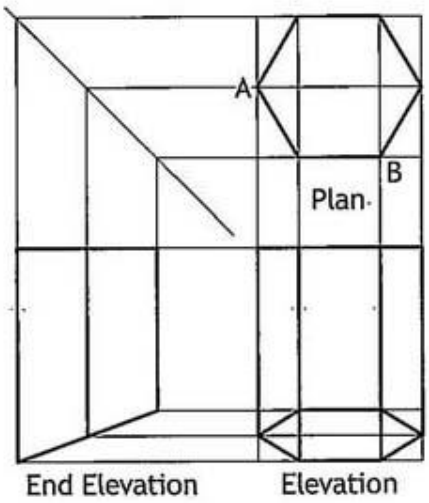
You should refer to the orthographic drawing below.

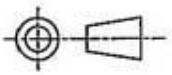
(i) When opened out at generator A, the correct surface development is view. 1

[6] *Insert number*

(ii) When opened out at generator B, the correct surface development is view. 1

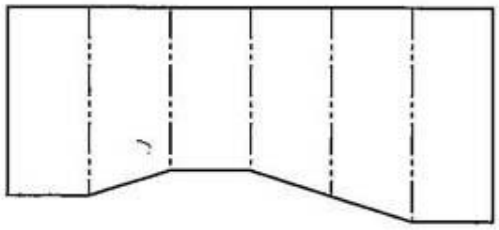
[3] *Insert number*



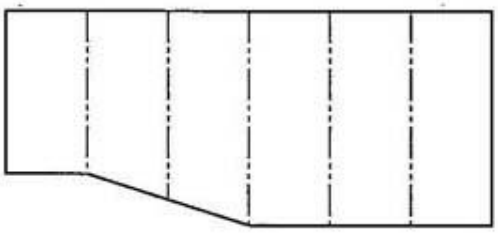


1. (continued)

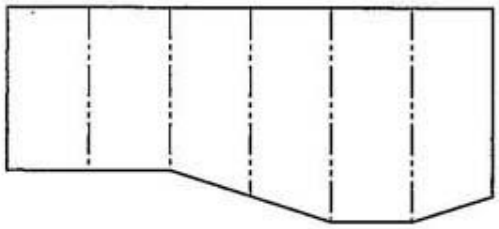
The range of surface developments are show below.



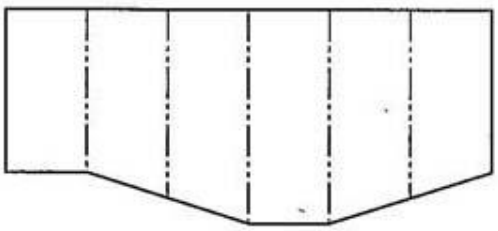
1.



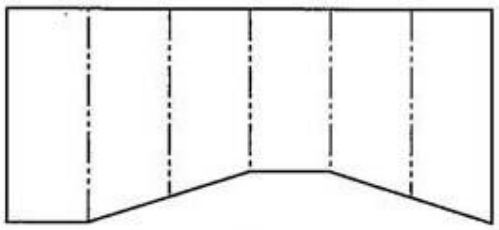
2.



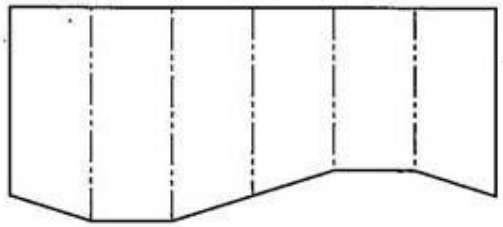
3.



4.



5.



6.

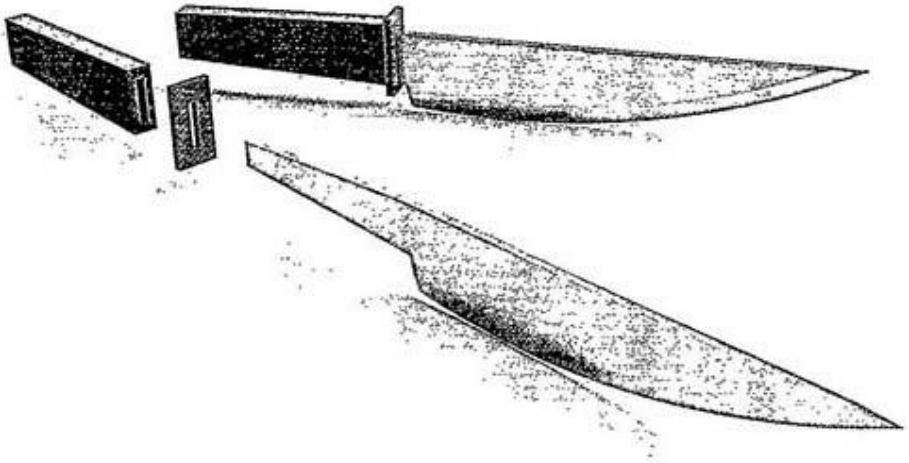
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. **1**

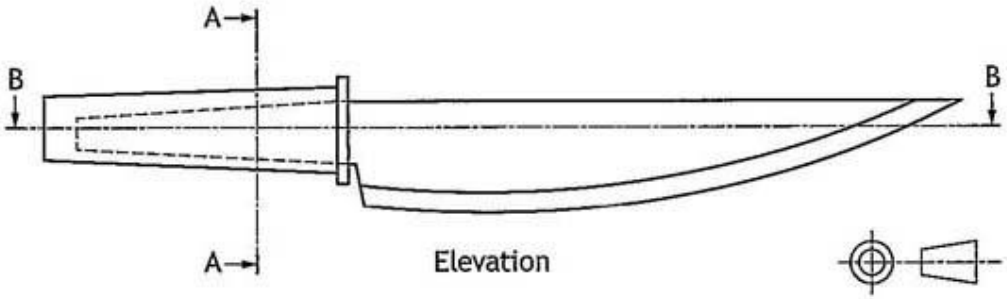
Because the more parts you use the more of a negative impact it has on the environment

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

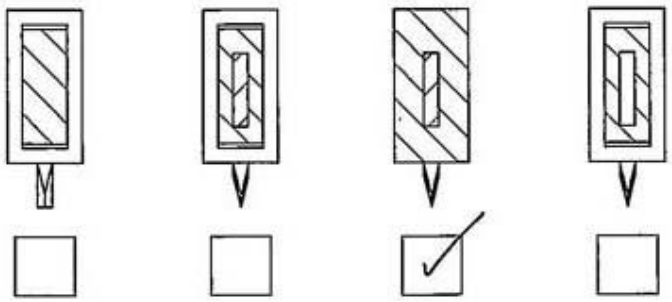


Plan



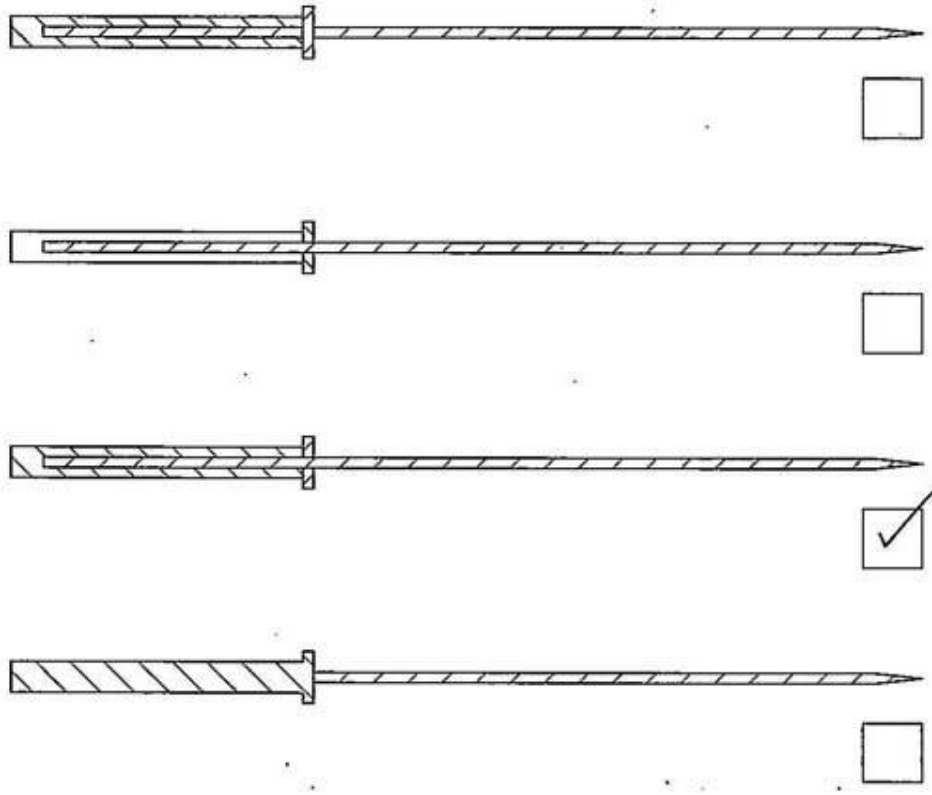
Elevation

(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. 1

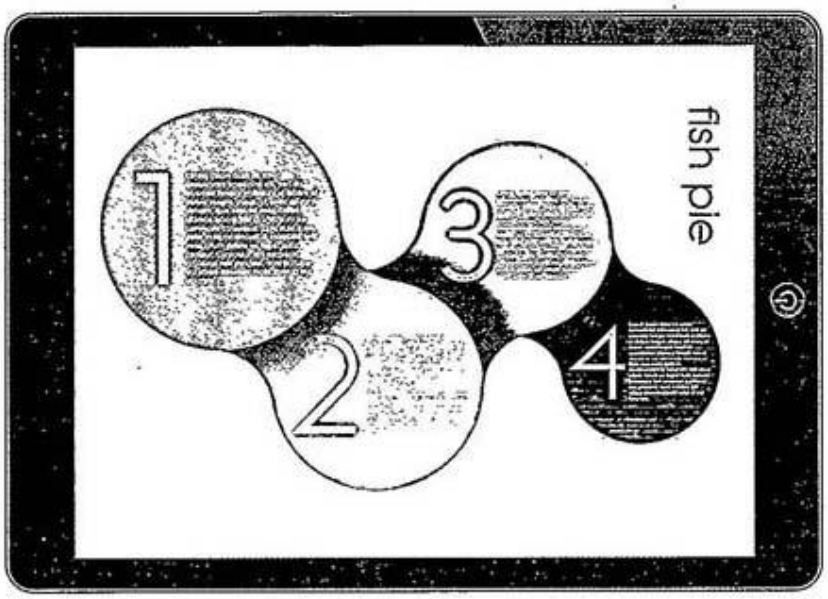


1. (i) (continued)

(ii) Identify the correct sectional plan B-B by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the **sequence** of the recipe shown above. 3

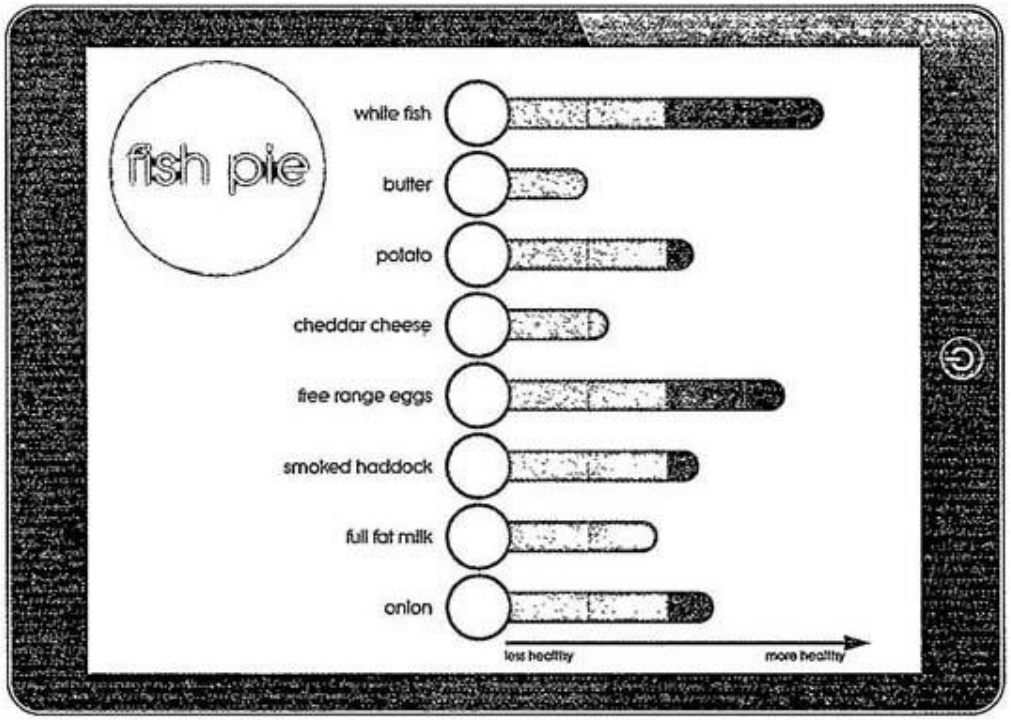
The designer has used depth and put the 1st step closest to you and the last step furthest away. The designer has also used colour to communicate the sequence as your eye is drawn to the brighter colours first. They have also put the first step on the left side which is where you naturally first look.

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

One benefit is that no paper is used. Another benefit is that there is no transportation required to deliver anything

2. **(continued)**

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

bar chart

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

the graphic artist has used tone of colour to communicate the health ratings

2. **(continued)**

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A.** 1

line graph

(ii) Explain why this is an appropriate type of informational graphic to present. 1

it is good at showing trends

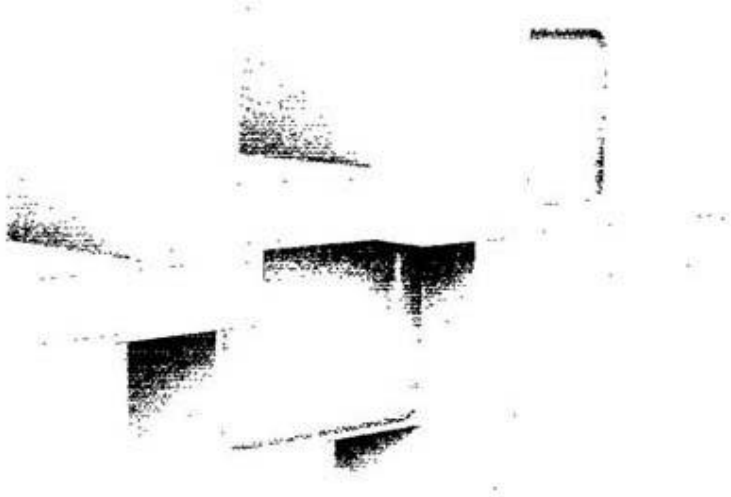
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B.** 1

pie chart

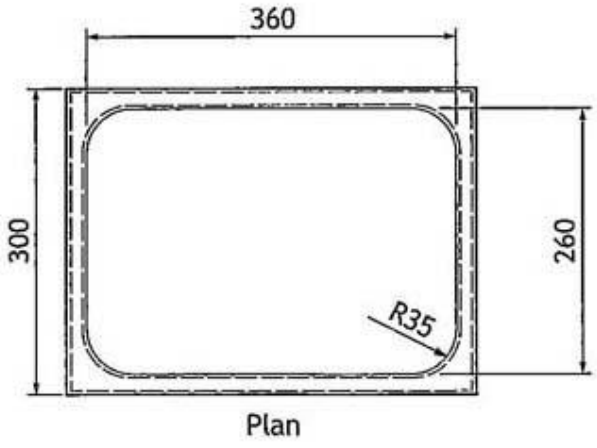
(ii) Explain why this is an appropriate type of informational graphic to present. 1

good at showing percentages

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

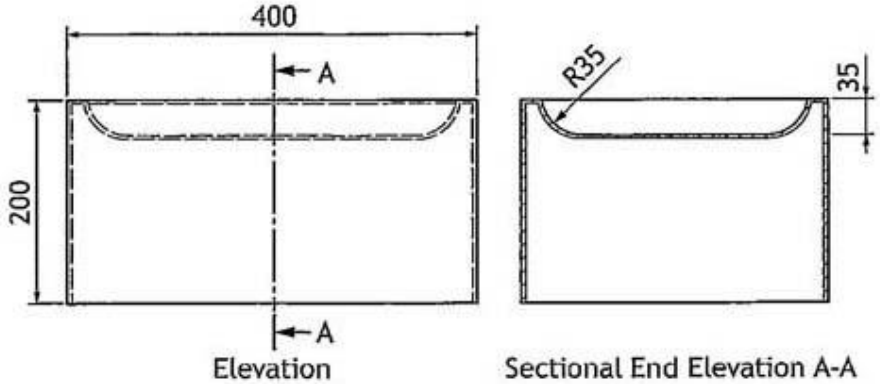


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm



Elevation

Sectional End Elevation A-A

3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. 6

1) Sketch a rectangle with dimensions 300x400

2) Extrude rectangle by 200

3) Sketch another rectangle on one of the large surfaces of the existing rectangle with dimensions 360x260

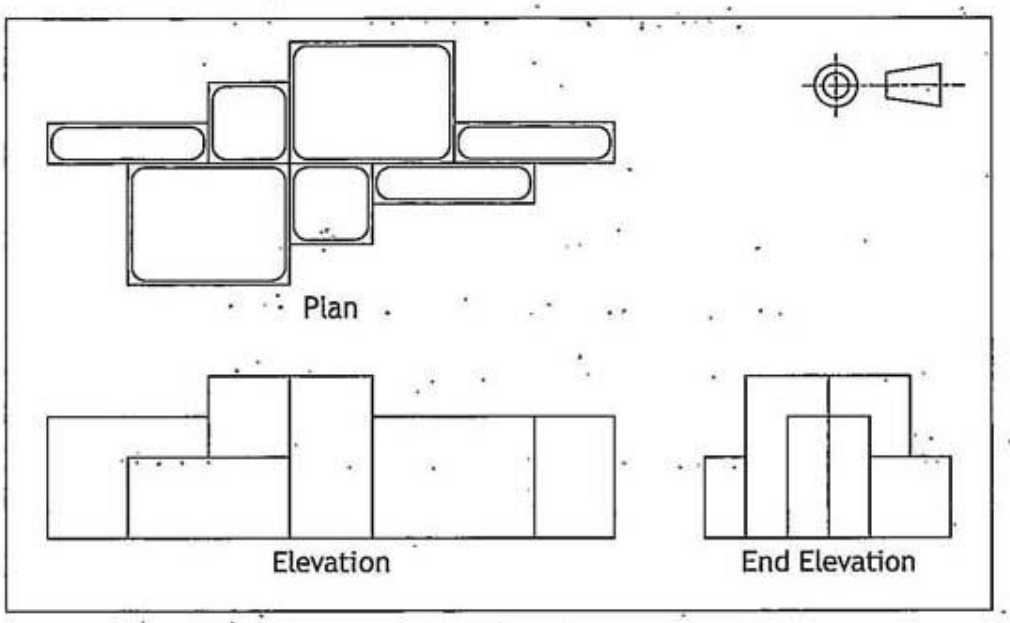
4) Fillet all 4 corners of the new rectangle by R35

5) Extrude subtract smaller rectangle by 35

6) fillet the side walls of smaller rectangle by R35

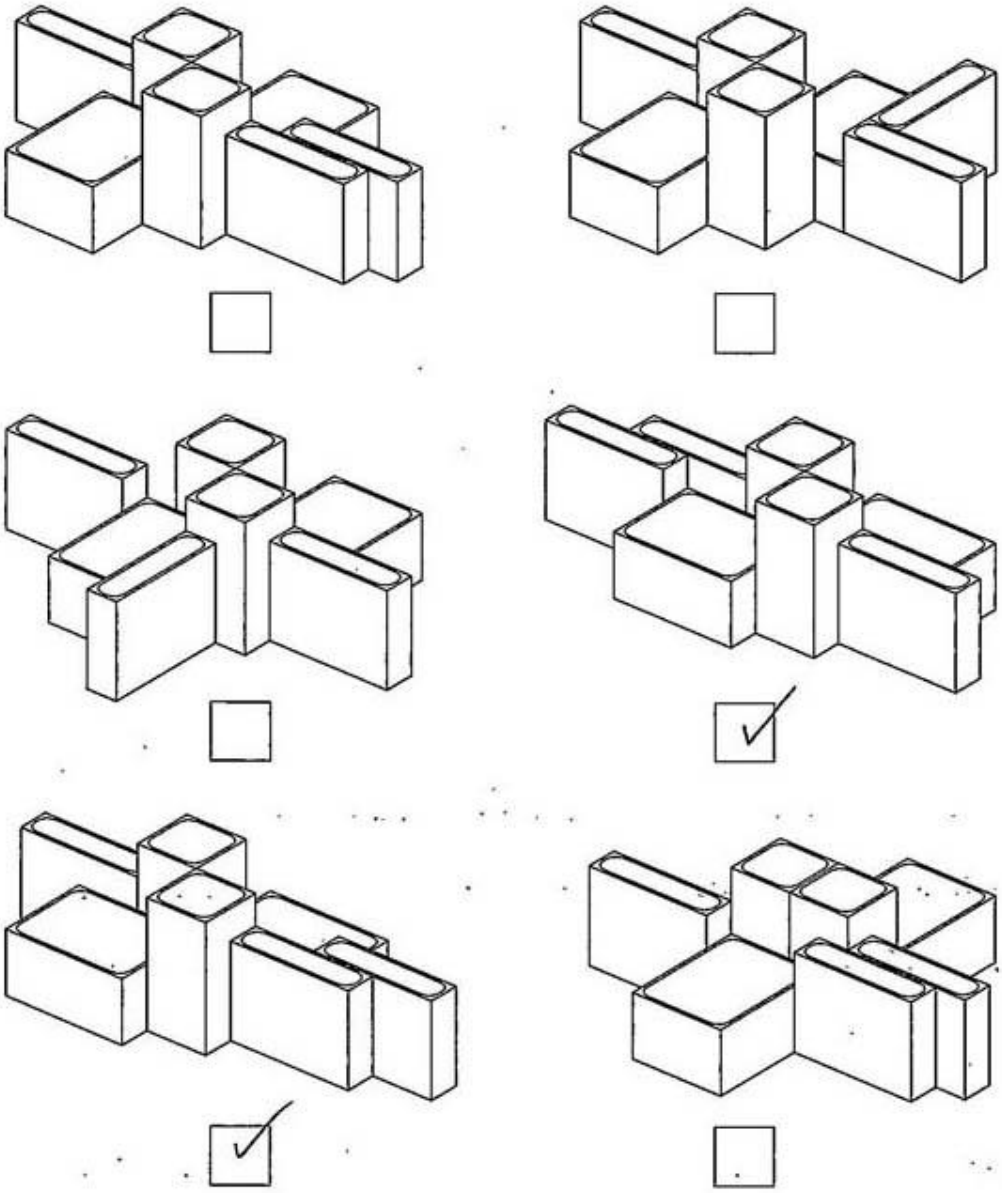
3. **(continued)**

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.



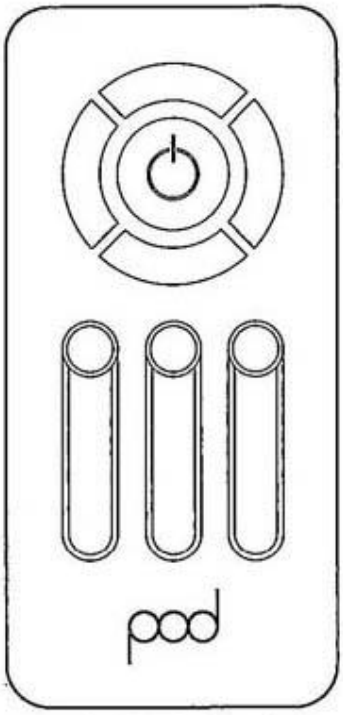
3. (continued)

(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement **in the orthographic assembly drawing shown.** 2

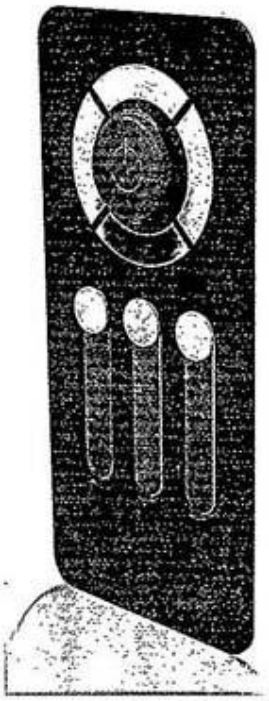


3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

The 2D CAD line drawing can be produced quicker because there are less commands required

(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

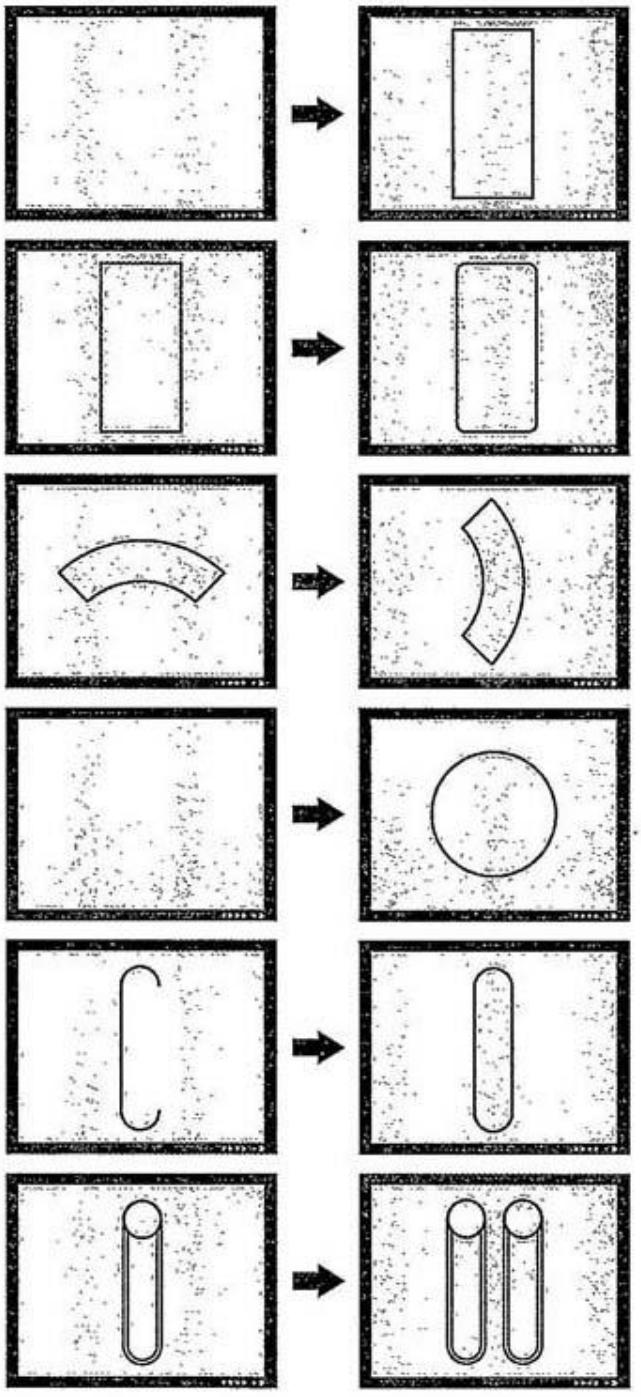
You can view the product from different angles.

You can render it and see how it looks in different lighting

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the **single** CAD tool used in **each case.** 6



(i) Tool used
rectangle

(ii) Tool used
fillet

(iii) Tool used
rotate

(iv) Tool used
circle

(v) Tool used
line

(vi) Tool used
mirror

3. (continued)

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

Centre Line

(ii) A continuous thick line 1

Visible detail

(iii) A long dash dotted thin line, thick at ends. 1

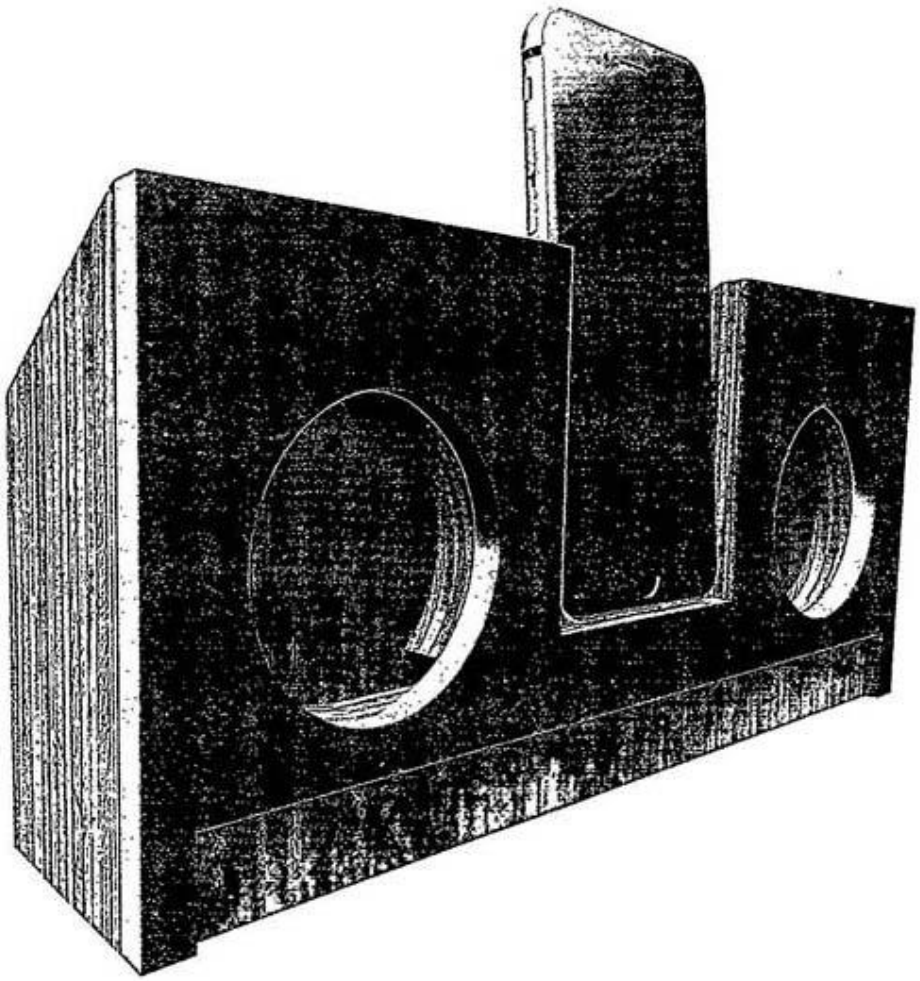
Cutting plane

The 2D CAD drawings are to be drawn using a scale.

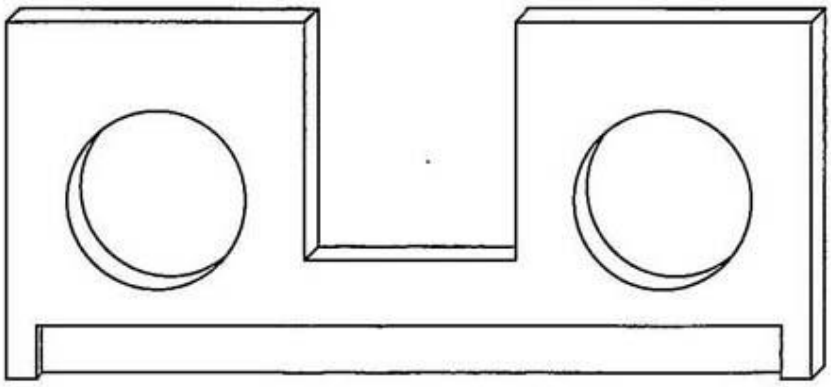
(g) Explain what is meant by the term scale 2:1. 1

This means the drawing is double the size of the product

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

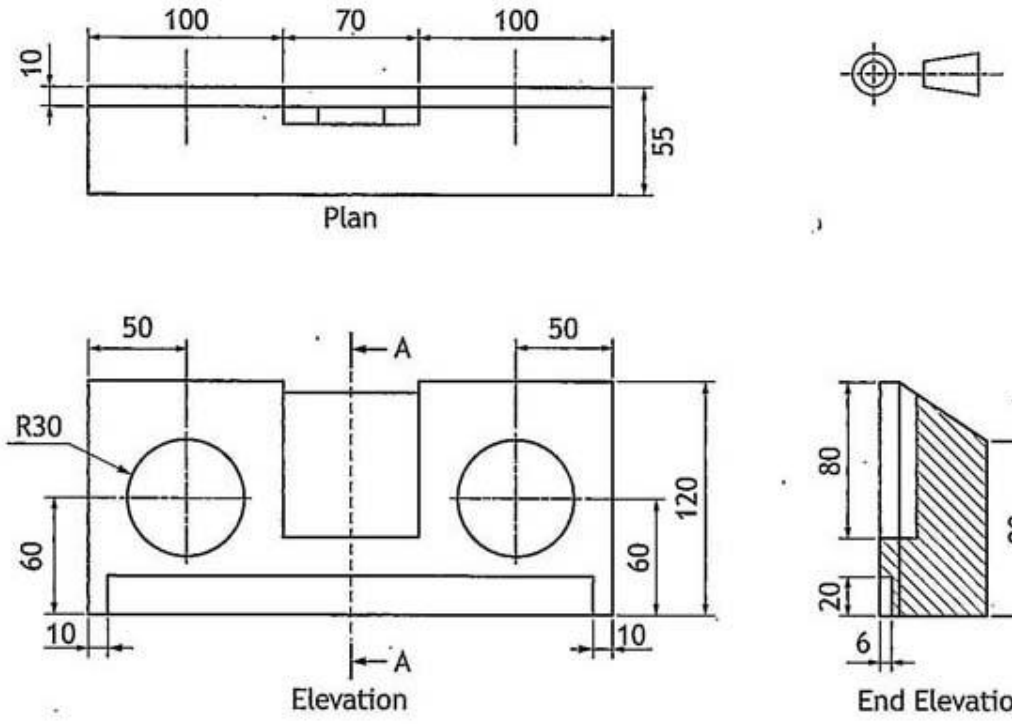


(a) State the type of pictorial view shown above. 1

Oblique

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

(b) State the five errors found in this drawing. **5**

You may annotate the orthographic drawing to support your answer.

dimension 55 on plan should be above line

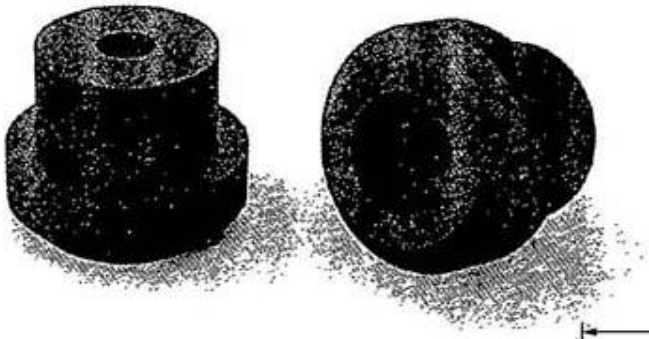
A radius dimension is used on a full circle

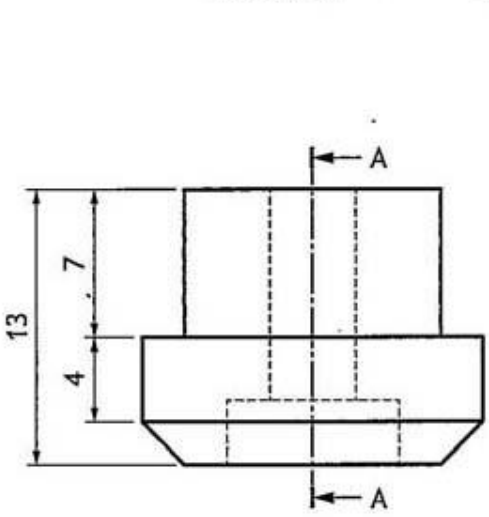
End Elevation is actually a sectional end elevation

Cutting plane line should be long dash then dot

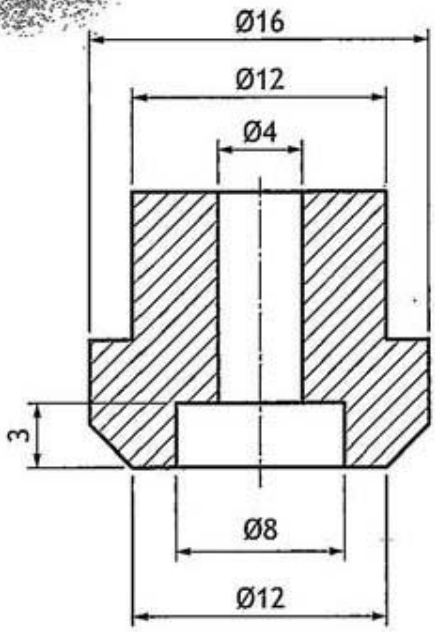
4. (continued)

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation



Sectional End Elevation A-A

4. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. **3**

You may use sketches to support your answer.

1) Sketch a circle of [redacted] with Ø16mm
2) Extrude circle by 6mm
3) Chamfer bottom edge of circle by 4mm
4) On the top surface of the circle sketch another circle with Ø12mm
5) Extrude Ø12 circle by 7mm
6) On the top surface of Ø12 circle sketch another circle with Ø4mm
7) Extrude subtract Ø4 circle all the way through the entire part.
8) On the bottom surface of Ø16 circle sketch a circle with Ø8mm
9) Extrude subtract circle by 3mm

4. (continued)

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

Sharing the drawings online would mean the product could be promoted. Another benefit is that useful consumer feedback could be received.

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

It would be useful to adhere to British Standard Conventions because: A manufacturing company would need to be able to interpret the drawings, And because that is what everyone works to

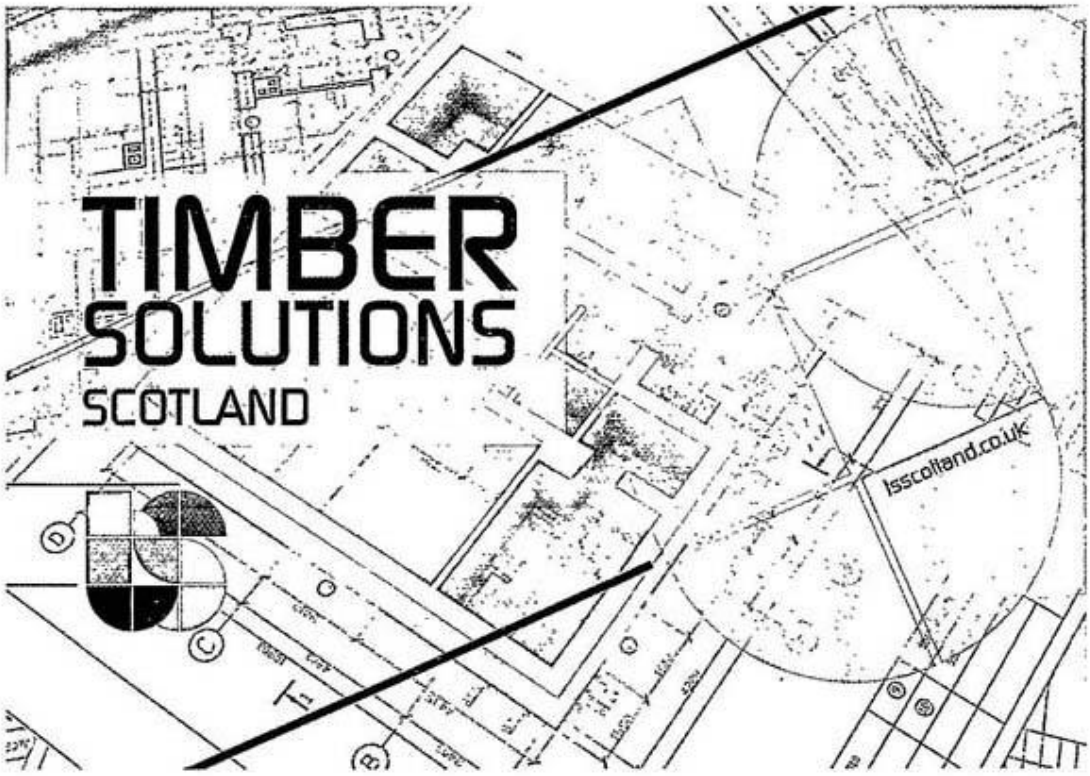
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views show detail on the inside of a part that wouldn't be visible when the part is assembled 1

(ii) Assembly drawings show how the product all fits together 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

Line is used to seperate different elements on the page.

Line also gives the page a structured look

(ii) Dominance 2

The company name creates dominance so that this is what the eye is drawn to

The logo also creates dominance as this is also a key feature of the page

(iii) Colour 2

The blue and brown contrast each other making the page eye-catching

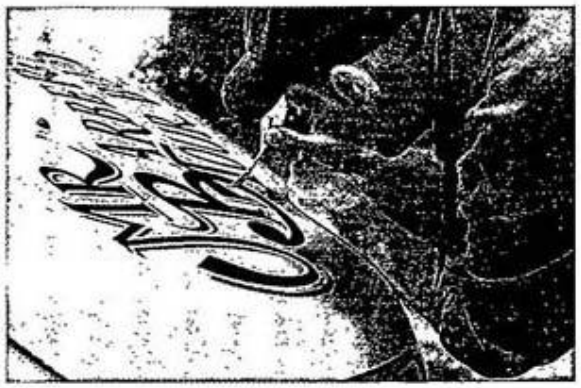
Different tones of blue are used which creates depth

(iv) Unity 2

The different tones of blue create unity. The use of curved shapes also create unity which helps to tie the page together

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.



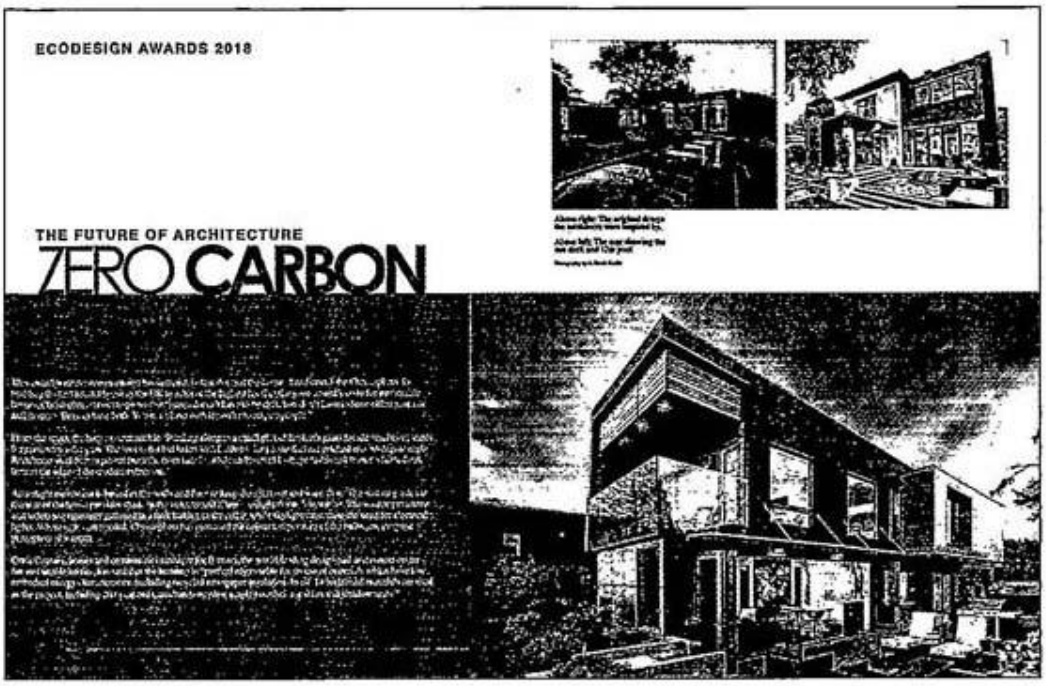
Traditional painting technique

Modern printed technique

(b) Describe two advantages **to the client** of modern printing techniques over traditional painting techniques. 2

One advantage to the client is that modern printing techniques take much less time than traditional techniques. Another advantage is that modern printing techniques are often more accurate as there can be no human error.

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.



The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

The designer could have used 'reverse' and made the word 'house' white

(ii) *The large column of extended text makes it difficult to read* 1

The designer could have used text wrap

(iii) *The bottom image would look better without the sky in the background* 1

The designer could have cropped the image

(iv) *The body text is too close to the edge of the paper* 1

The designer should have used a margin

6. **(continued)**

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. **2**

The designer has chosen a sans serif font because : they are easier to read than serif fonts and they are less formal which is good for magazines

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. **1**

The designer could have changed the scale

6. **(continued)**

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines.**

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

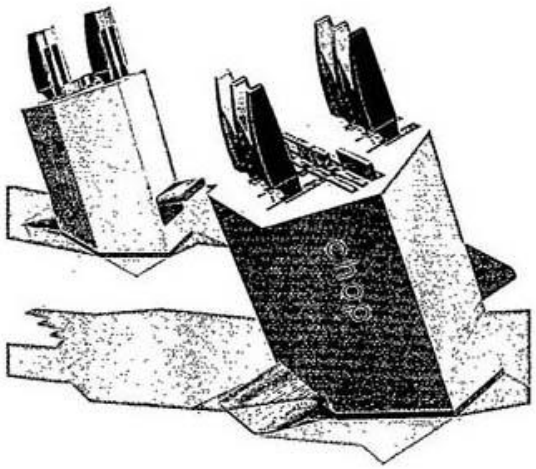
One advantage is that when it prints it will all be on the sheet. Another advantage is that it makes it easier to align elements.

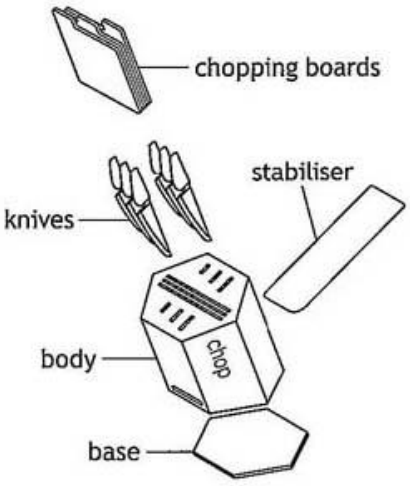
Candidate 7 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.





A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

- Easy to edit if need be
- Saves on material

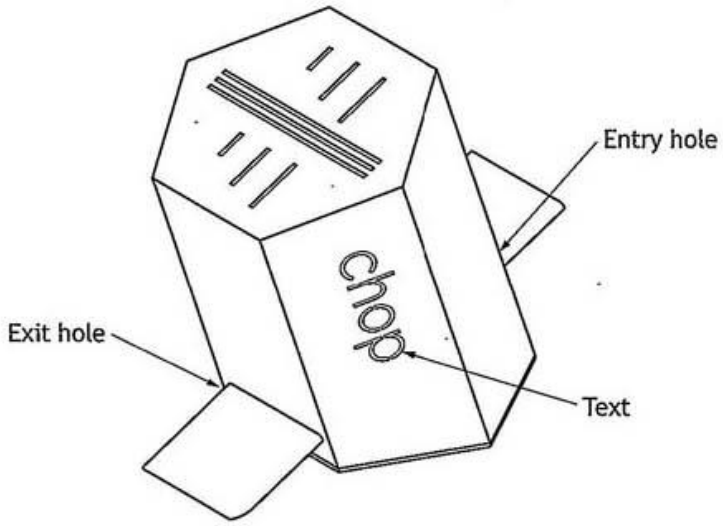
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

After Fixation

1. **(continued)**

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

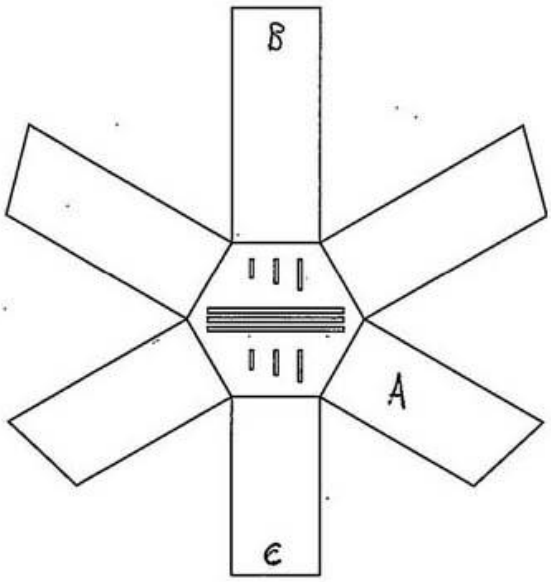


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use **A** to indicate on the panel where the Text would be located.

Use **B** to indicate on the panel where the Entry hole would be located.

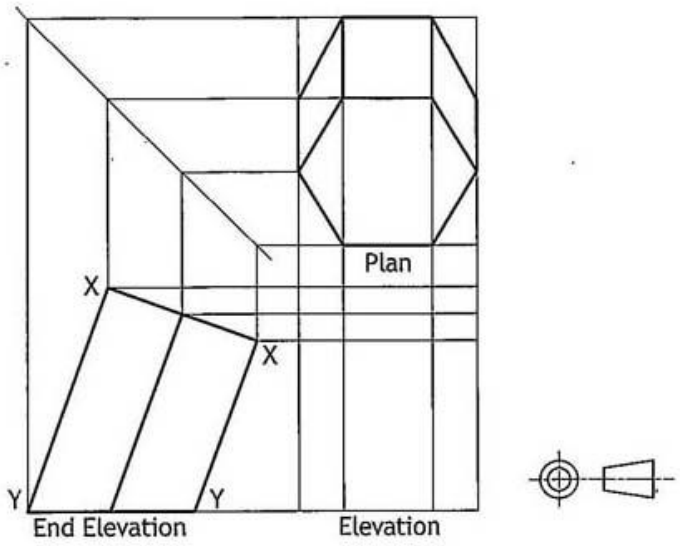
Use **C** to indicate on the panel where the Exit hole would be located.



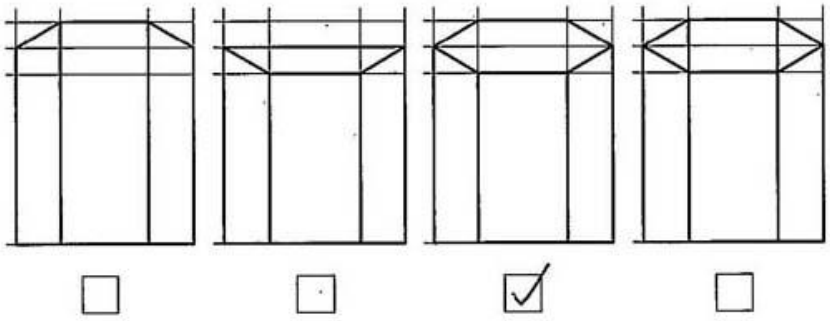
1. **(continued)**

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

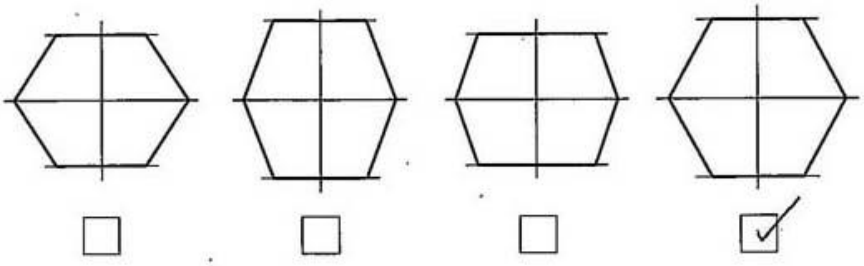


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



A true shape of surface X–X was required.

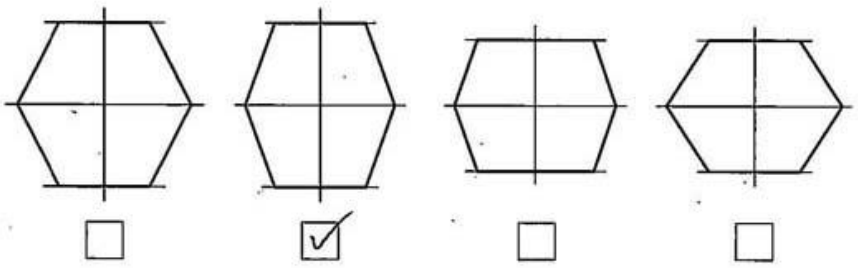
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. **(continued)**

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

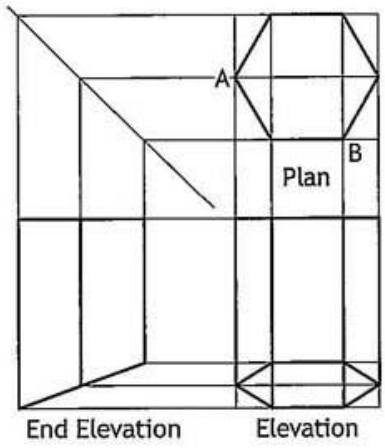
You should refer to the orthographic drawing below.

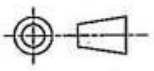
(i) When opened out at generator A, the correct surface development is view. 1

6 *Insert number*

(ii) When opened out at generator B, the correct surface development is view. 1

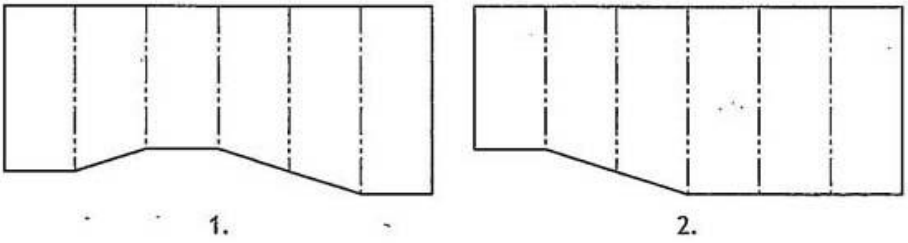
4 *Insert number*





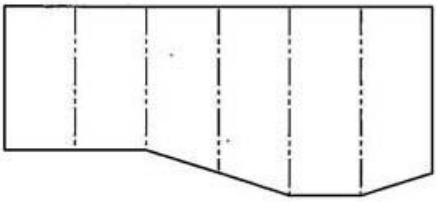
1. **(continued)**

The range of surface developments are show below.

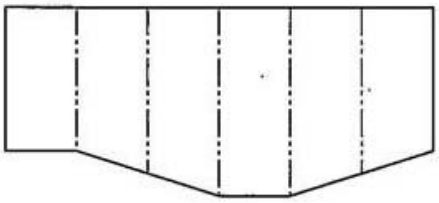


1.

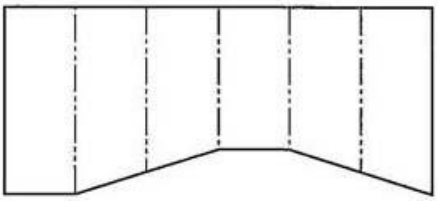
2.



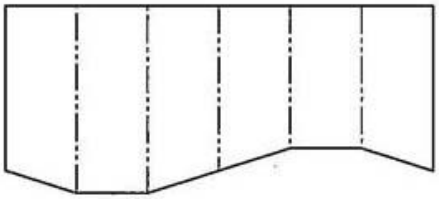
3.



4.



5.



6.

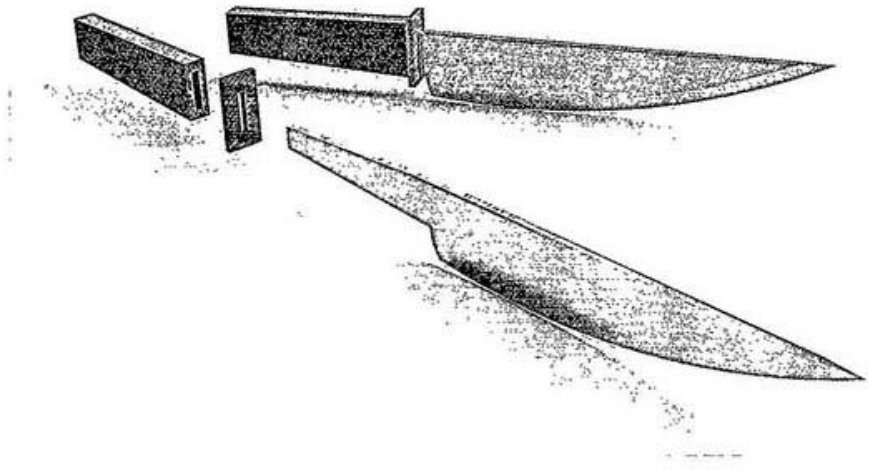
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

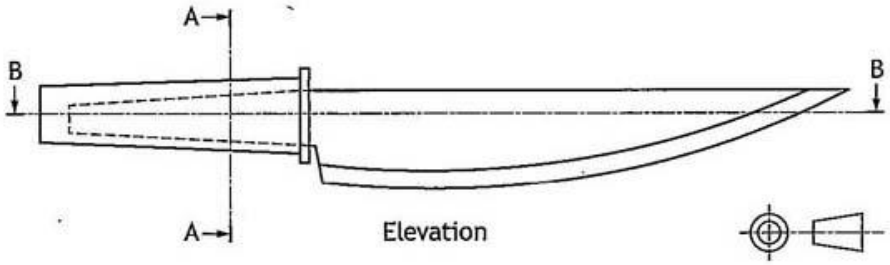
To save on material wasted

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

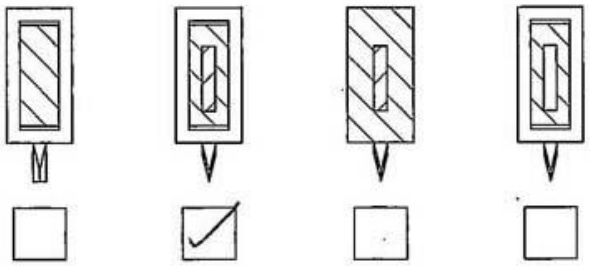


Plan



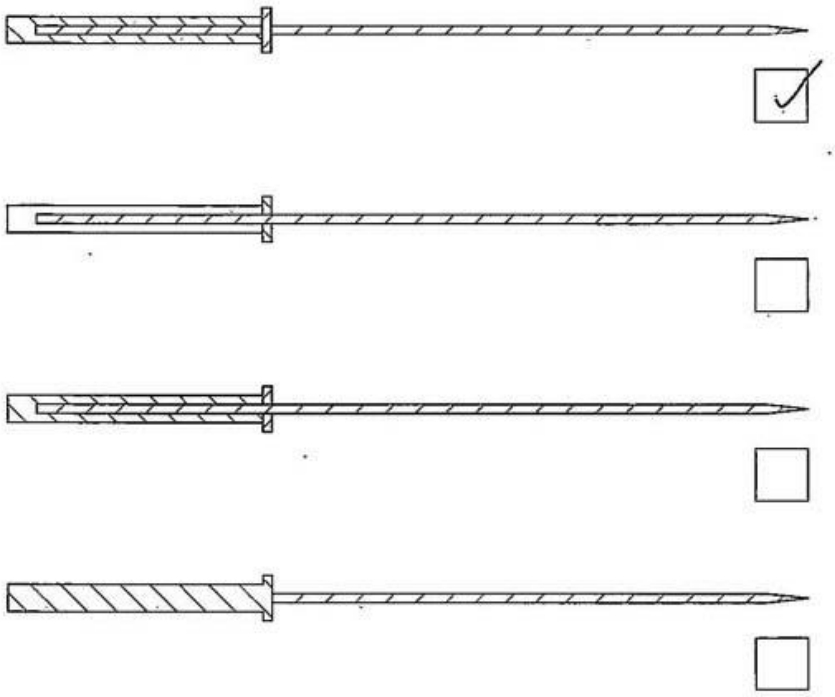
Elevation

(i) Identify the correct sectional end elevation A-A by ticking (✓) a box below. 1

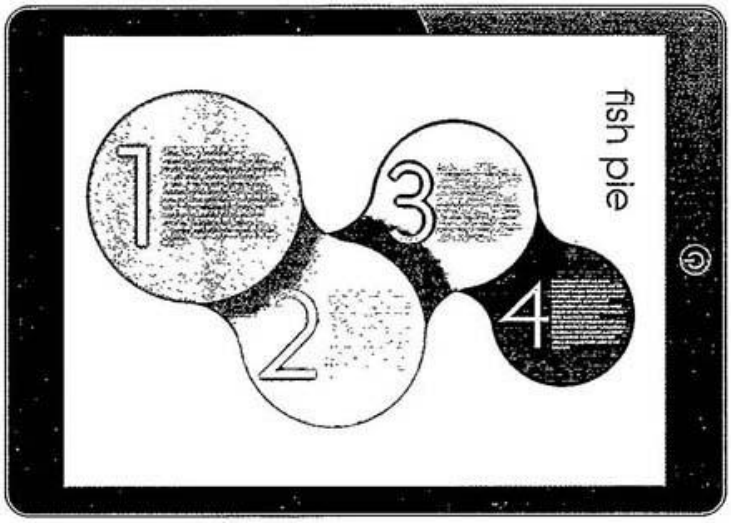


1. (i) (continued)

(ii) Identify the correct sectional plan **B-B** by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the **sequence** of the recipe shown above. 3

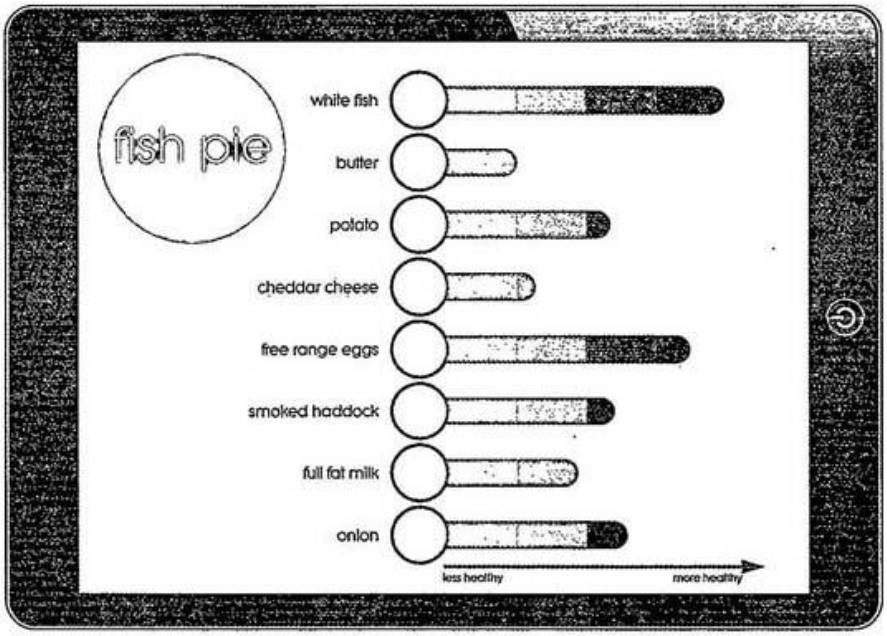
- Flow of the shapes - lead on from each other.
- Colour contrasts against each - draws attention to the eye.
- Shadow of the shapes on top of each other

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

- Save of materials and is easily profitable
- Reaches a larger audience - more available.

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

Bar graph

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

Shade of colour - lighter is the less healthier it is.

2. **(continued)**

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A.** 1

line graph

(ii) Explain why this is an appropriate type of informational graphic to present. 1

Easier to display more information.

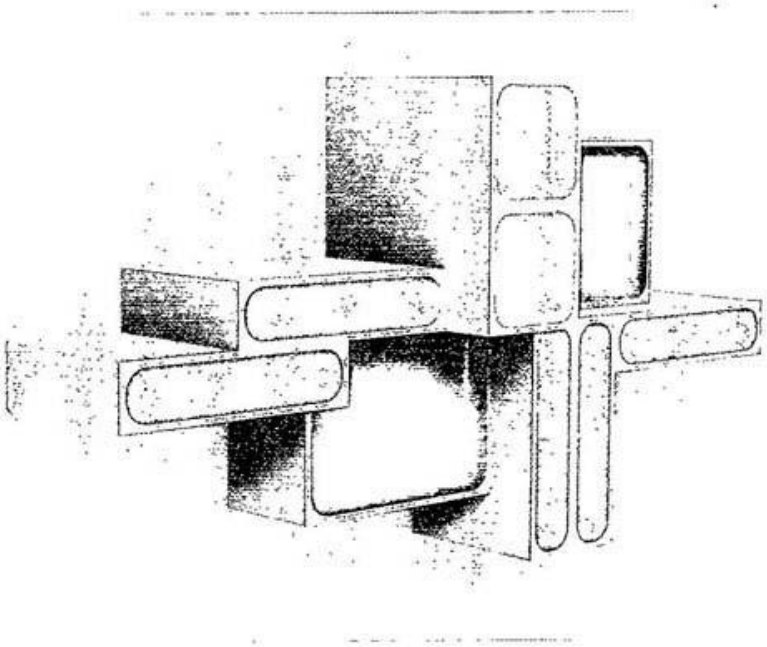
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B.** 1

Pie chart

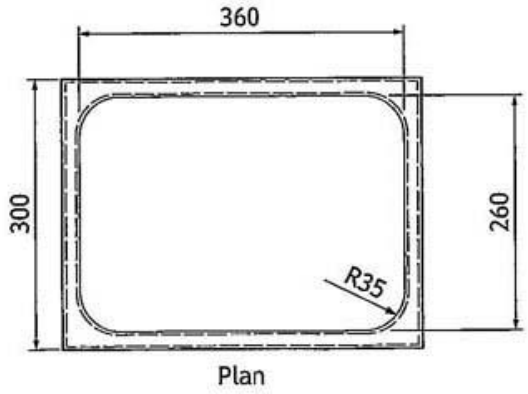
(ii) Explain why this is an appropriate type of informational graphic to present. 1

Information is out of 100%. Gives a clear view on the data.

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

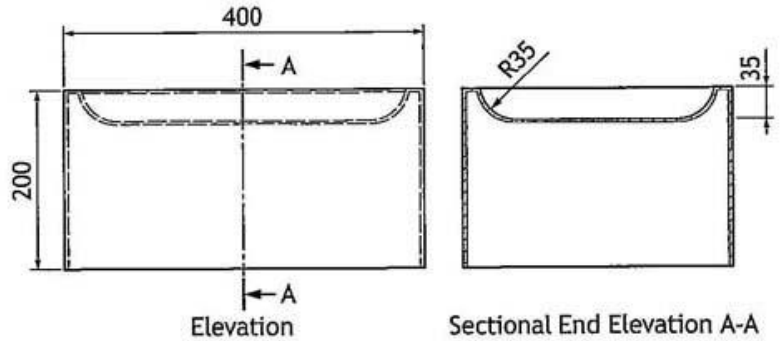


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm



Elevation

Sectional End Elevation A-A

3. (continued)

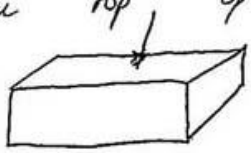
(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. 6

First

~~Create~~ Sketch a rectangle of ~~300 x 400mm~~ 300 x 400 mm

Then extrude the rectangle by 200 mm

Then create a sketch ~~of a rectangle~~ on the top of the ~~object~~ object

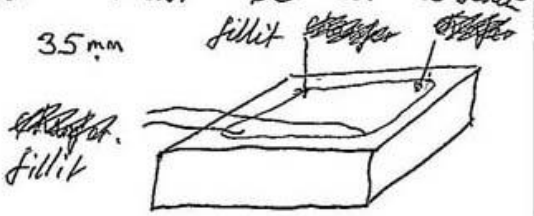


Sketch a rectangle 360 x 260mm and are the edges.

Extrude cut the sketch to 35 mm deep.

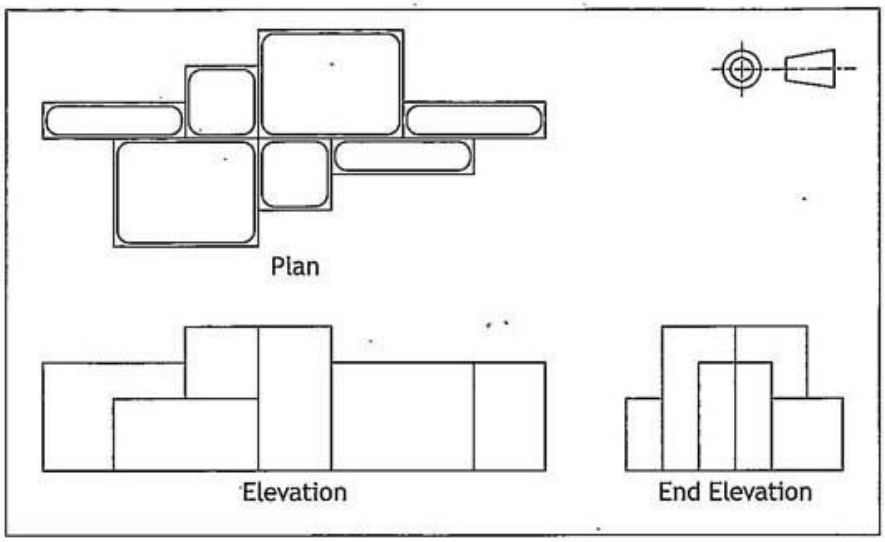
Then use ~~fillit~~ fillit to round the inside edges of the extrusion.

The ~~fillit~~ fillit must be at a ~~fillit~~ radius of 35mm



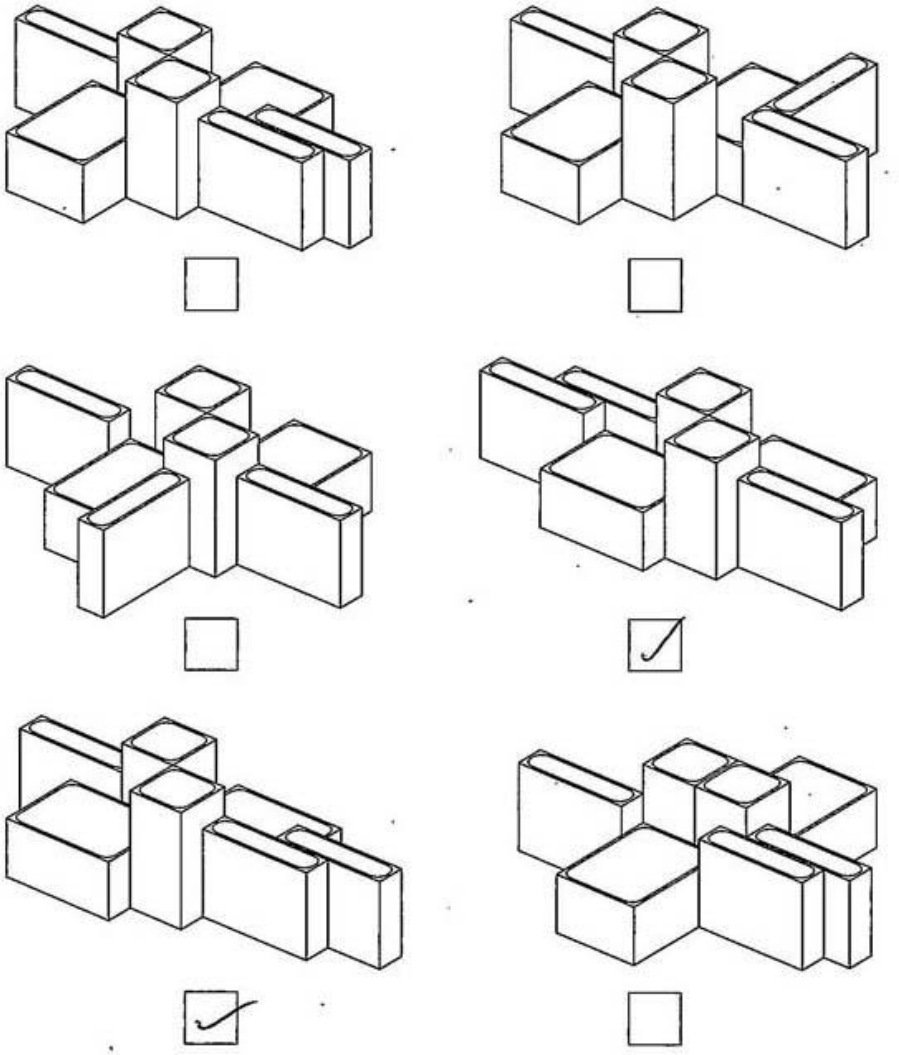
3. (continued)

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.



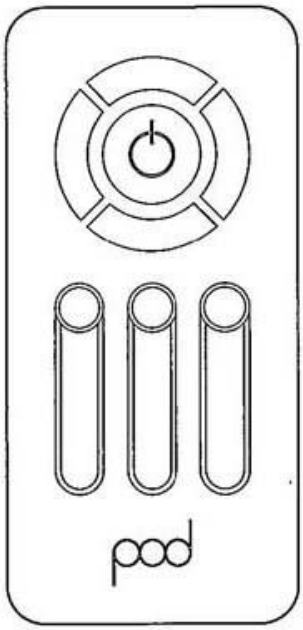
3. (continued)

(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement in the orthographic assembly drawing shown. 2

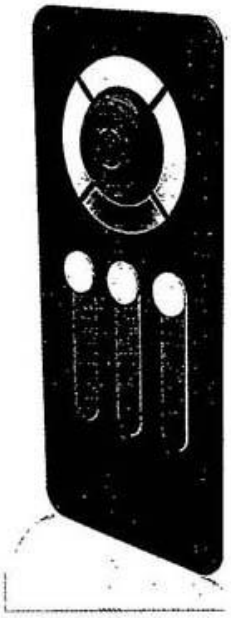


3. **(continued)**

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

because the 3D CAD model needs to be rendered

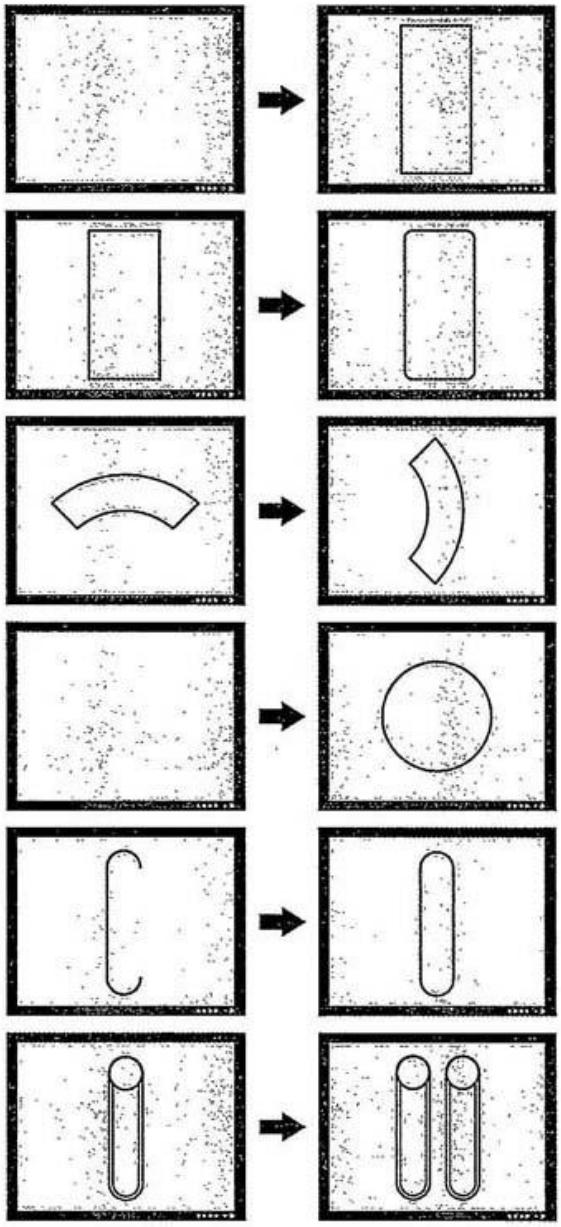
(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

- Can see a life like model and a preview of what it will look like
- Easier to view anything that requires editing.

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the **single** CAD tool used in **each case.** **6**



(i) Tool used
rectangle

(ii) Tool used
fillit

(iii) Tool used
rotate

(iv) Tool used
circle

(v) Tool used
~~edit~~ line

(vi) Tool used
copy

3. (continued)

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

centre line

(ii) A continuous thick line 1

outline

(iii) A long dash dotted thin line, thick at ends. 1

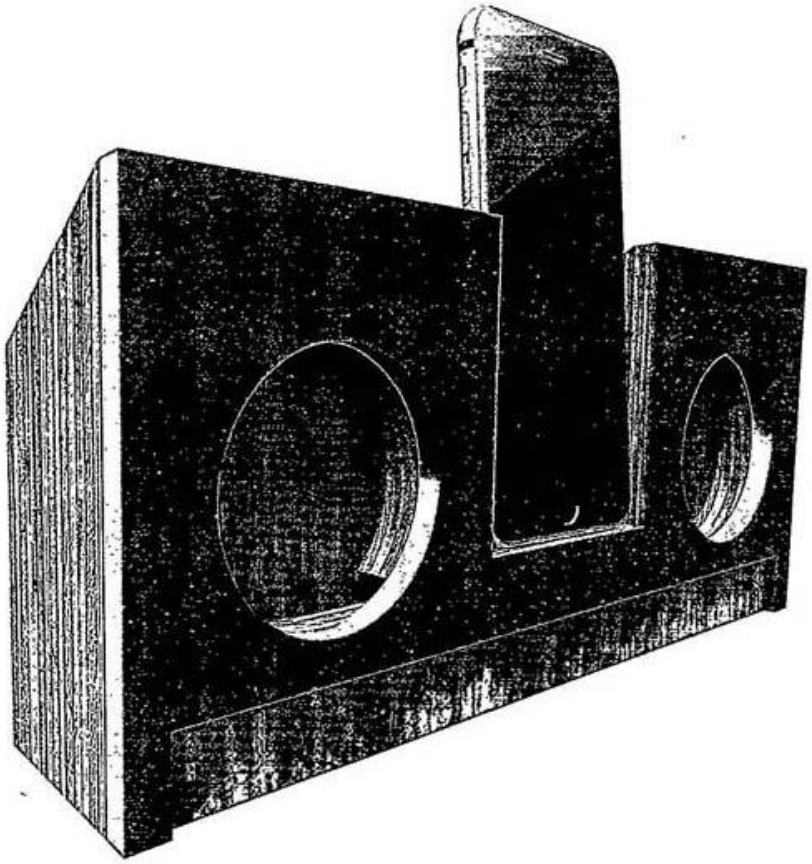
sectional line

The 2D CAD drawings are to be drawn using a scale.

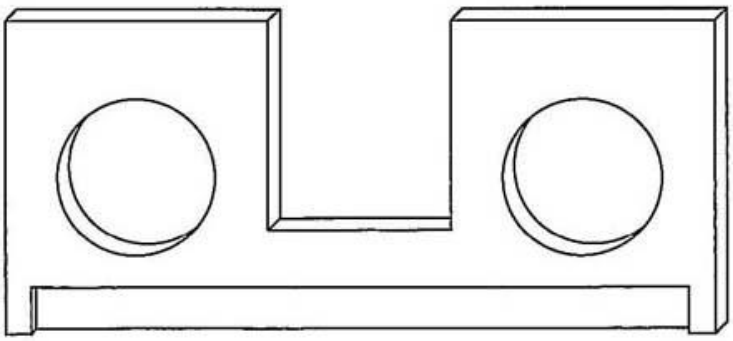
(g) Explain what is meant by the term scale 2:1. 1

2 x larger

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

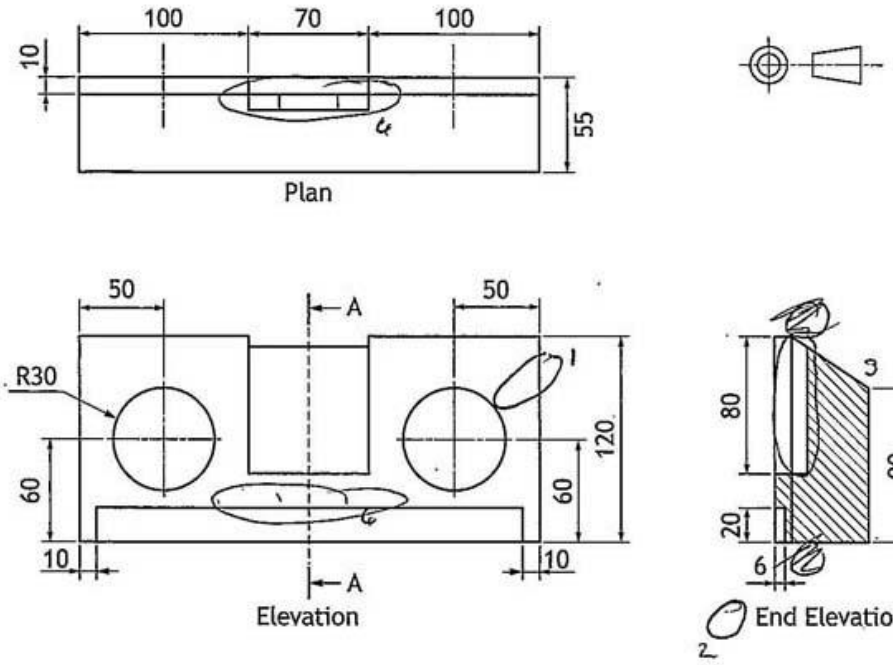


(a) State the type of pictorial view shown above. 1

Isometric

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

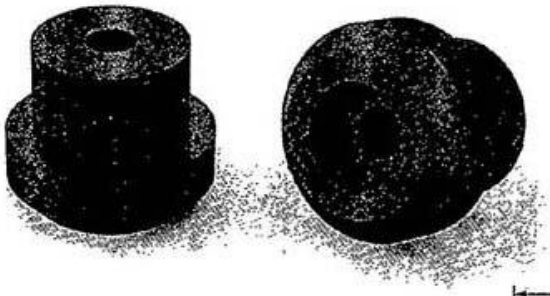
(b) State the five errors found in this drawing. 5

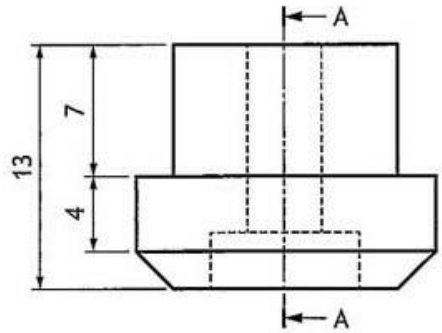
You may annotate the orthographic drawing to support your answer.

1- radius of circle missing
2. hasn't mention what sectional view it is
3. sectional lines are wrong
4. Detail missing
5. ~~Hidden~~ ~~detail~~ missing detail

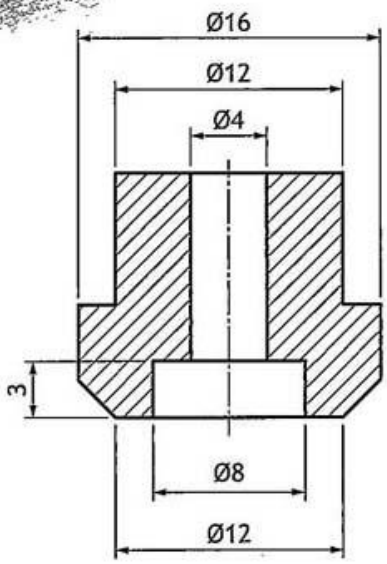
4. **(continued)**

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation



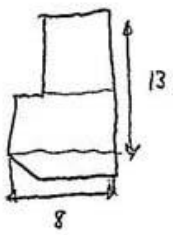
Sectional End Elevation A-A

4. (continued)

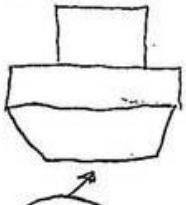
(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

You may use sketches to support your answer.

First create a sketch of half of the object 13 x 8 mm



Then revolve the shape to create a full 360° object.



Then create a sketch on top of the shape. Sketch a circle with a diameter of 8mm in the centre of the circle on the top of the object. Extrude cut this shape by 3mm

Then create another sketch of a circle with a diameter of 4mm in the centre of the previous circle Extrude cut this circle by 10mm to complete the object.

4. **(continued)**

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

- allows someone else to create it easily
- everything should turn out consistant
- Measurments are all the same and previous measured to save time.

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

- so everything is to the same scale
- Nothing is confusing about it and easy to read and interpenet.

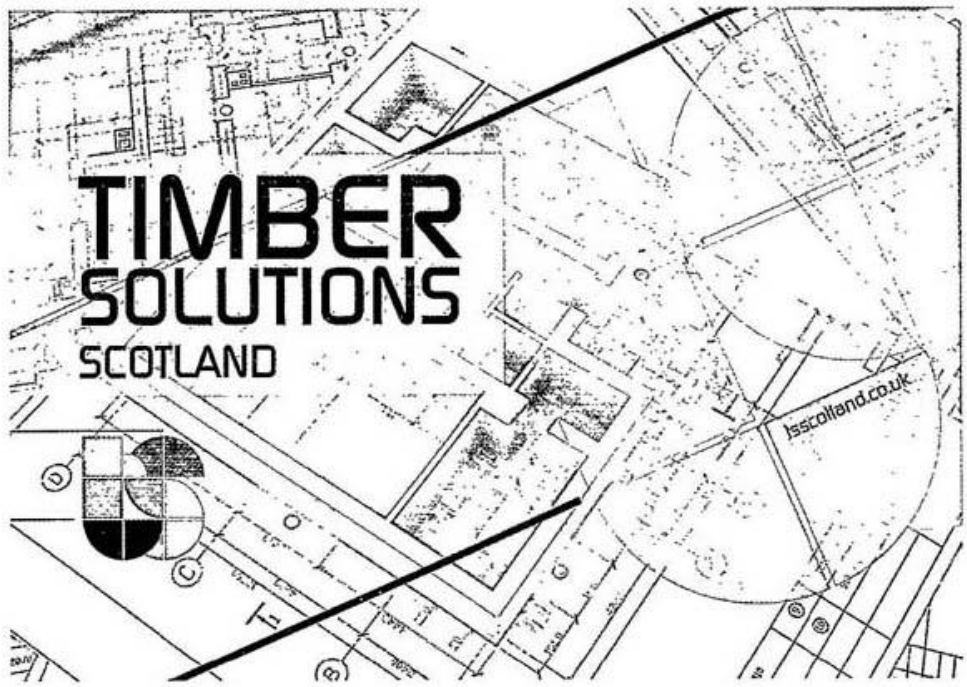
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views To see what it should look like inside of the object. 1

(ii) Assembly drawings To allow anyone to see where everything fits together. 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

- The blue line goes behind the company's name to make it stand out.
- Lines break up the logo and add depth to the logo

(ii) Dominance 2

- The ~~logo~~ title is ~~dominant~~ large in the ad to show importance
- The colour of the logo contrasts ~~it~~ against the background to make it stand out.

(iii) Colour 2

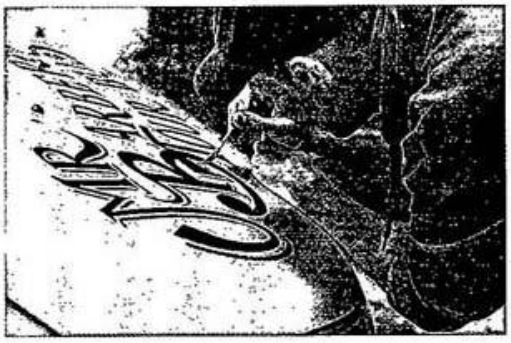
- The blue of the logo contrasts with the white background.
- The brown colour of the name and the website draws attention to it.

(iv) Unity 2

- The alignment of the logo
- Unity in the different shades of blue.

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.



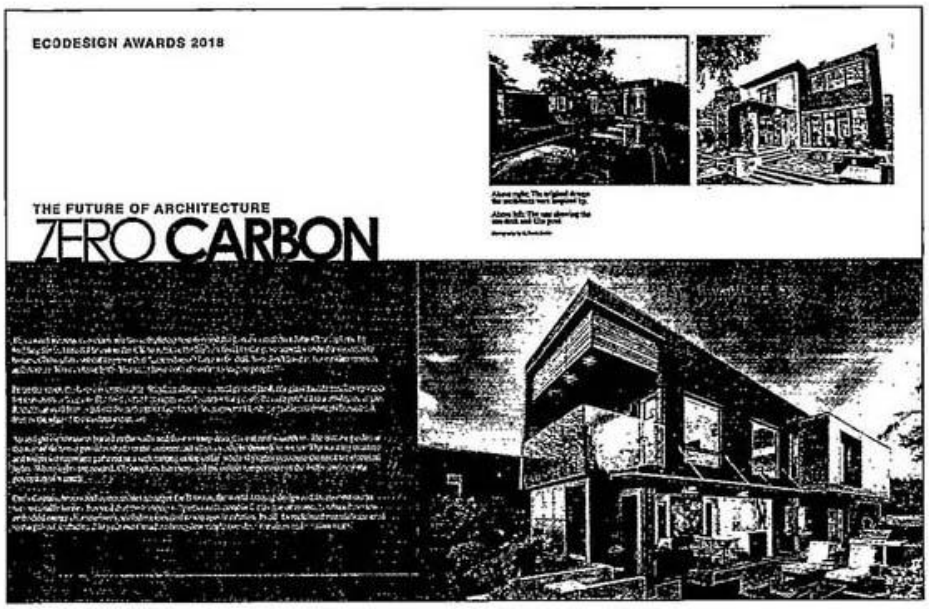
Traditional painting technique

Modern printed technique

(b) Describe two advantages **to the client** of modern printing techniques over traditional painting techniques. **2**

- less time consuming and means the printing can be done quicker an still look just as good.
- Easy to replace or change in the case if gets damaged or if you wanted to edit it.

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.



The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

The word could be changed to white.

(ii) *The large column of extended text makes it difficult to read* 1

increase the size of text or decrease the amount.

(iii) *The bottom image would look better without the sky in the background* 1

Photoshop out the sky.

(iv) *The body text is too close to the edge of the paper* 1

Move the text away from the edge.

6. (continued)

The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

- Clear to see and easy to read.
- Stands out

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.

(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

held the control key down while dragging to size.

6. **(continued)**

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines**.

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

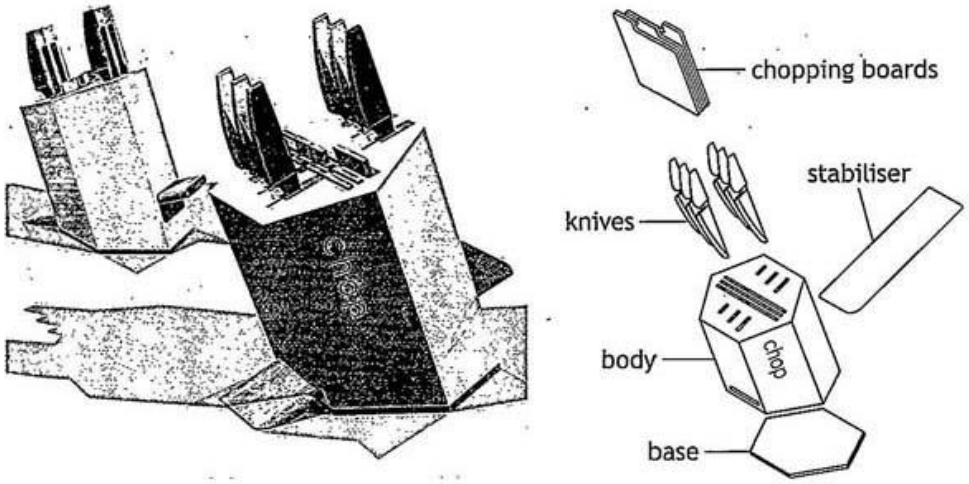
- See if everything fits to proportion
- to give them an idea of where things can be placed on the page.

Candidate 8 evidence

Total marks — 80

Attempt ALL questions

1. A knife and chopping board storage system is shown below. The body is made from sheet metal. A CAD technician produced the rendered 3D CAD illustration and the pictorial line drawing shown below.



A 3D CAD model rather than a physical model of the storage system was created during the development stage.

(a) State two reasons why a 3D CAD model was more suitable than a physical model. 2

- Easier to transport ie. via email.
- Easier to modify and create changes to the design.

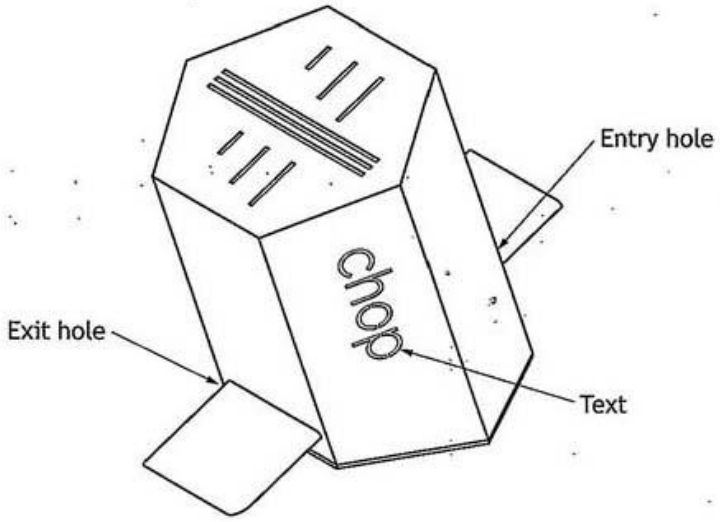
To produce the CAD model the CAD technician was given information about the storage system. One dimension stated: A/F 300mm.

(b) State the meaning of A/F. 1

Across Flats

1. (continued)

The CAD technician has been asked to produce an appropriate surface development for the storage system and identify where key features will be placed.

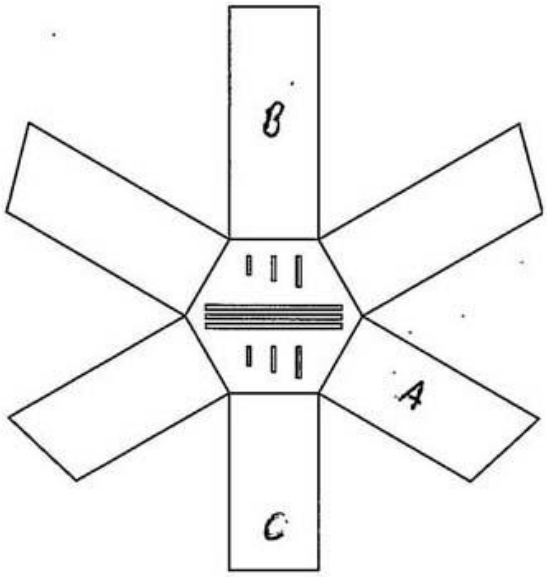


(c) Indicate, on the graphic below, where the Text, Entry hole and Exit hole would be located. 3

Use **A** to indicate on the panel where the Text would be located.

Use **B** to indicate on the panel where the Entry hole would be located.

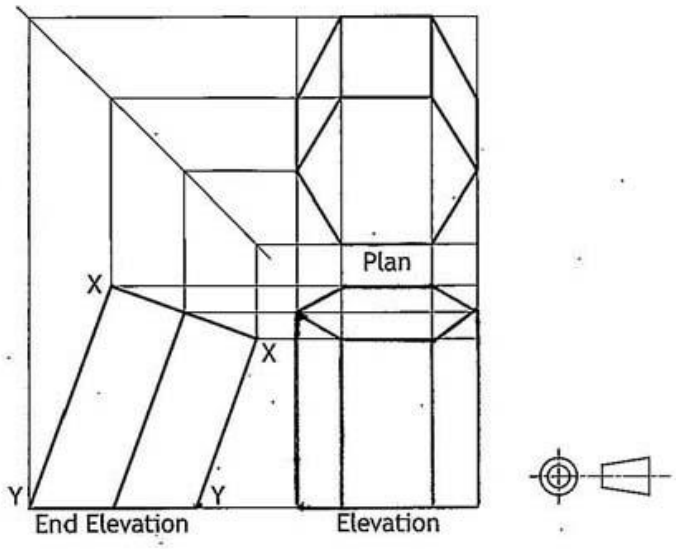
Use **C** to indicate on the panel where the Exit hole would be located.



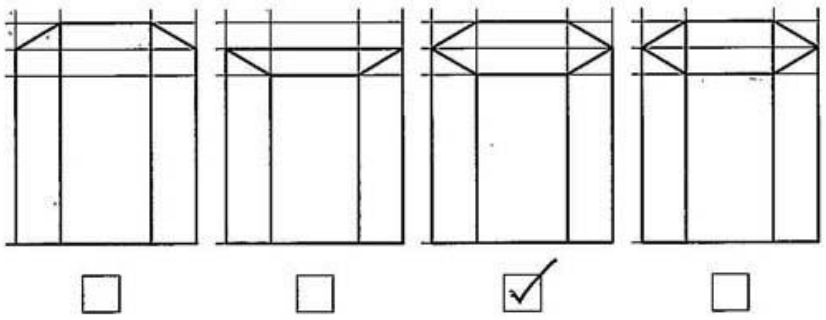
1. **(continued)**

To aid the production of the storage system the CAD technician was asked to complete the orthographic drawing shown below.

Hidden detail and slots removed for clarity.

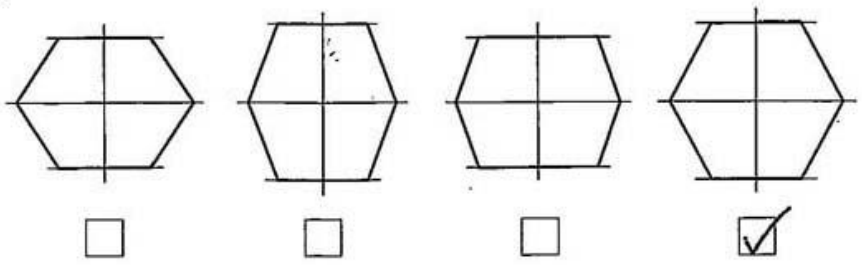


(d) Identify, using a tick (✓), the correct elevation. Ignore wall thickness. 1



A true shape of surface X–X was required.

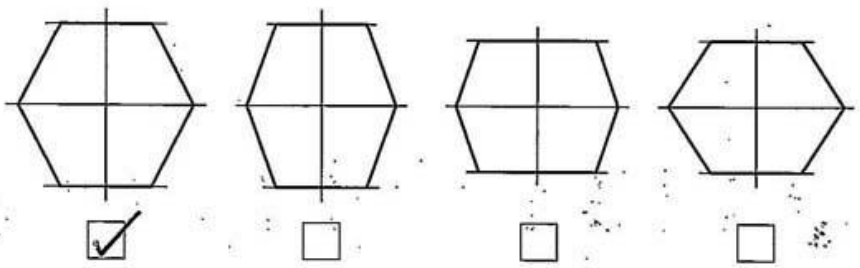
(e) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. (continued)

A true shape of surface Y–Y was required.

(f) Identify, using a tick (✓), the correct true shape. Use a ruler or trammel to measure. 1



1. **(continued)**

The CAD technician was then asked to provide surface developments of the body of the knife block, without the top.

(g) Identify the two correct surface developments, shown opposite, of the knife block when opened out at surface generators 'A' and 'B'.

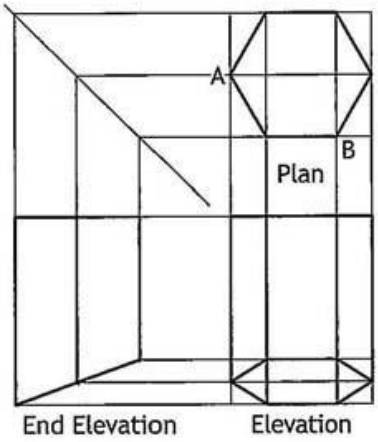
You should refer to the orthographic drawing below.

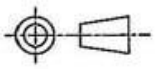
(i) When opened out at generator A, the correct surface development is view. 1

[ ] *Insert number* [6]

(ii) When opened out at generator B, the correct surface development is view. 1

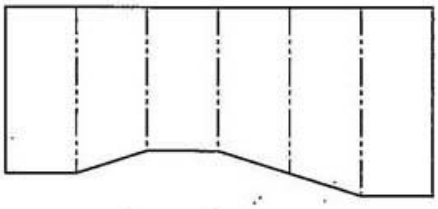
[4] *Insert number*



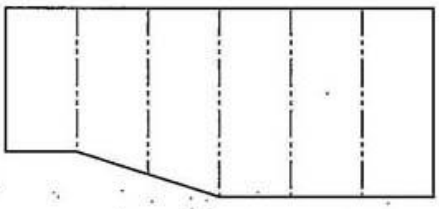


1. (continued)

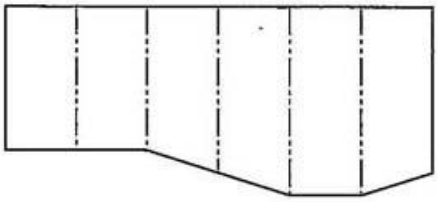
The range of surface developments are show below.



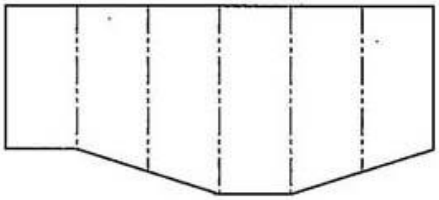
1.



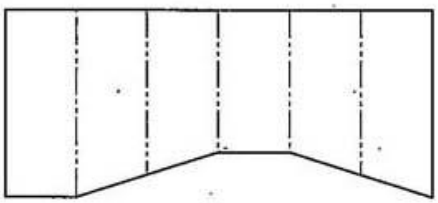
2.



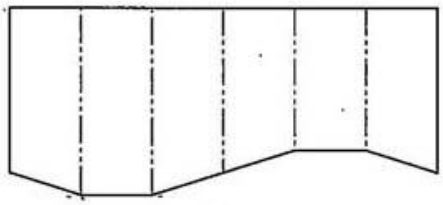
3.



4.



5.



6.

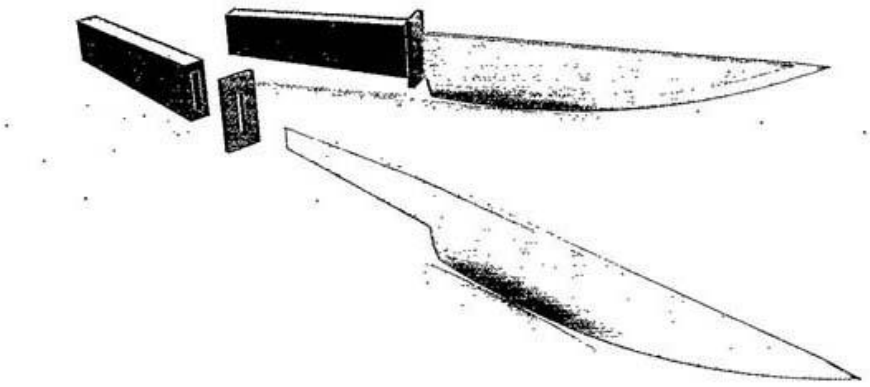
A number of the knife blocks are to be produced from a single sheet of material.

(h) Explain, in terms of environmental impact, why it is important to carefully consider the layout of multiple parts. 1

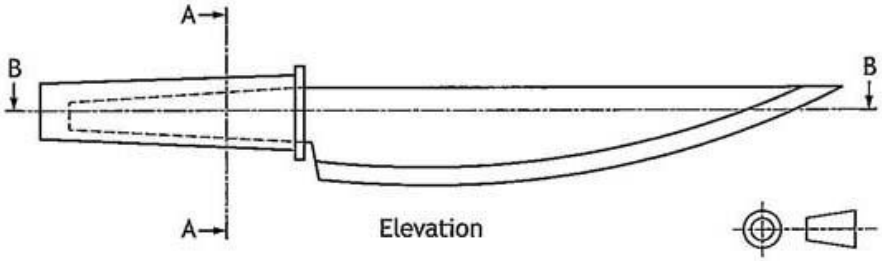
The layout can determine the amount of paper waste, if positioned carefully, there will be less paper waste.

1. (continued)

(i) A knife set to complement the knife block is to be produced. Rendered pictorials and orthographic views of one knife are shown below.

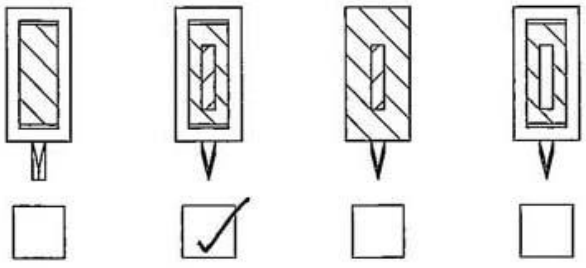


Plan



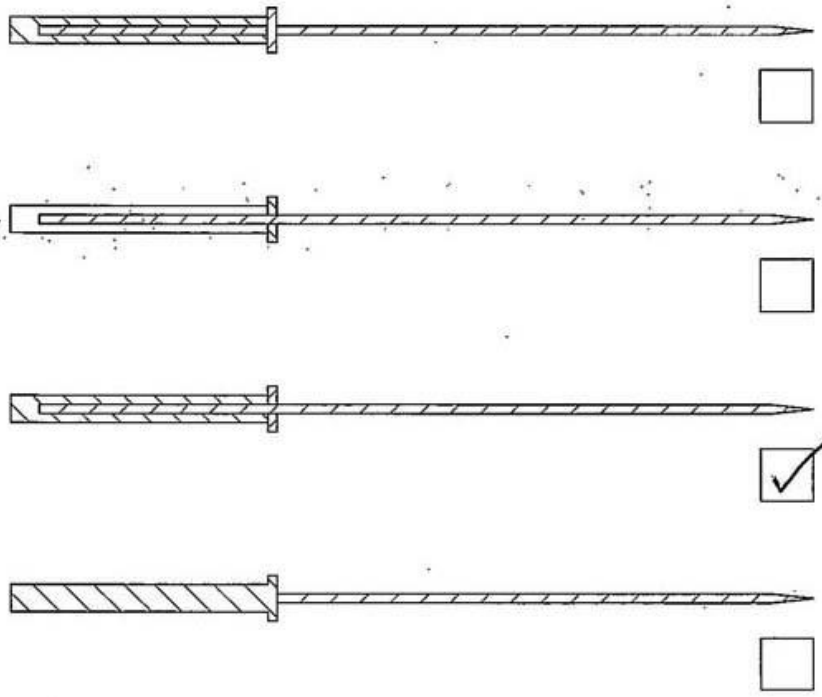
Elevation

(i) Identify the correct sectional end elevation **A-A** by ticking (✓) a box below. 1

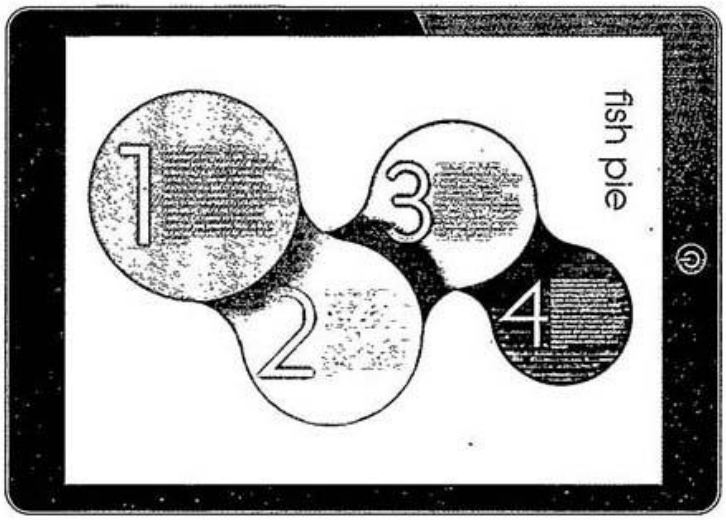


1. (i) (continued)

(ii) Identify the correct sectional plan **B-B** by ticking (✓) a box below. 1



2. A recipe app has been produced. The graphic artist was asked to ensure that the graphic layout was easy to follow.



(a) Describe three ways, other than the numbering system, that the graphic artist has graphically communicated the **sequence** of the recipe shown above. 3

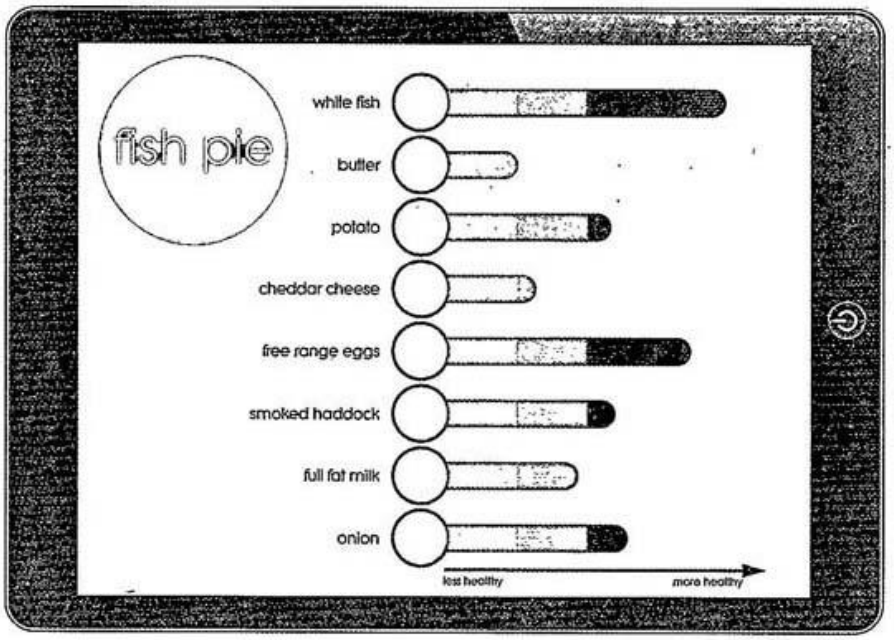
- Connecting the circles one after the other from biggest to smallest. drop
- Creating a shadow to represent stepping down to the next circle.
- Using a sequence of colours from green to red guides through contrast.

(b) Describe two benefits that producing a recipe app, rather than physically printing a recipe book, would have for the environment. 2

- No paper waste from the books production.
- No pollution from trucks through distribution of the book.

2. (continued)

The app also contains an additional feature that analyses individual ingredients and calculates the overall health rating of the recipe.



(c) Name the type of graph or chart that was used in the graphic shown above. 1

Bar Chart/Graph.

(d) Describe one way that the graphic artist has graphically communicated the health rating of the individual ingredients. 1

Using a gradient of the colours ~~Green~~ green meaning healthy, the more green it gets the healthier it is.

1

2. (continued)

Two different sets of statistics that have been provided are shown below.

Statistics A	
Nutritional Data – Nuts	
Cashew	170 Calories, 13g Fat, 8g Carb, 5g Protein, 1g Fibre
Hazelnut	180 Calories, 18g Fat, 4g Carb, 4g Protein, 2g Fibre
Peanut	170 Calories, 14g Fat, 6g Carb, 7g Protein, 2g Fibre
Walnut	210 Calories, 20g Fat, 6g Carb, 5g Protein, 2g Fibre

Statistics B	
Healthy diet plan	
Fruit and Vegetables	33%
Carbohydrates	33%
Protein	12%
Milk and Dairy	15%
Fats and sugars	7%

(e) (i) State the most suitable type of informational graphic to present the data shown in **Statistics A**. 1

Bar Chart/Graph

(ii) Explain why this is an appropriate type of informational graphic to present. 1

To show different amounts of different things in a similar topic.

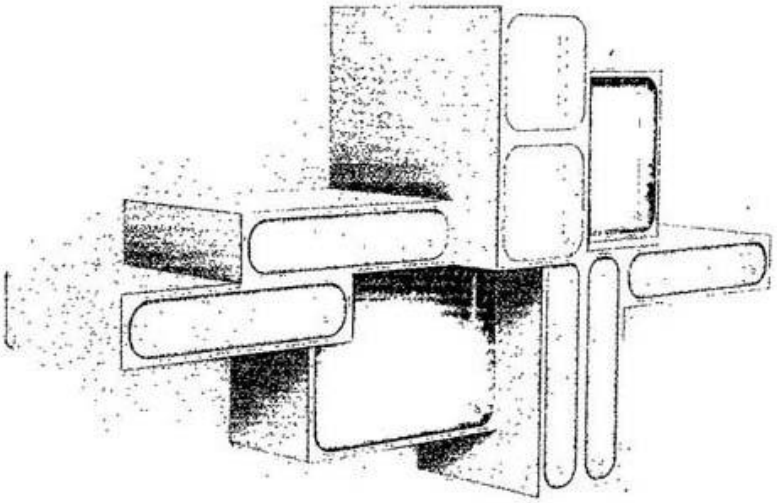
(f) (i) State the most suitable type of informational graphic to present the data in **Statistics B**. 1

Pie Chart

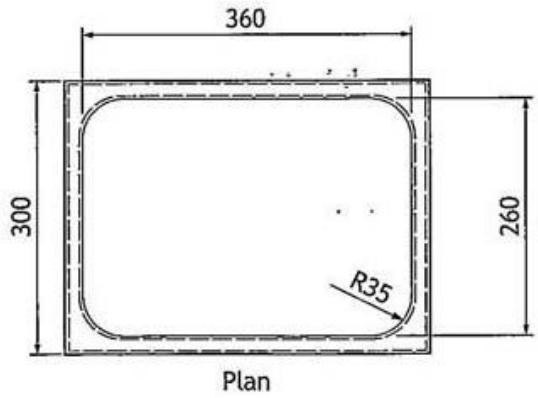
(ii) Explain why this is an appropriate type of informational graphic to present. 1

To show percentages of a whole number or thing.

3. A modular lighting system is shown below. There are three sizes of coloured lighting pods that can be arranged in a variety of ways. A rendered 3D CAD illustration is shown below.

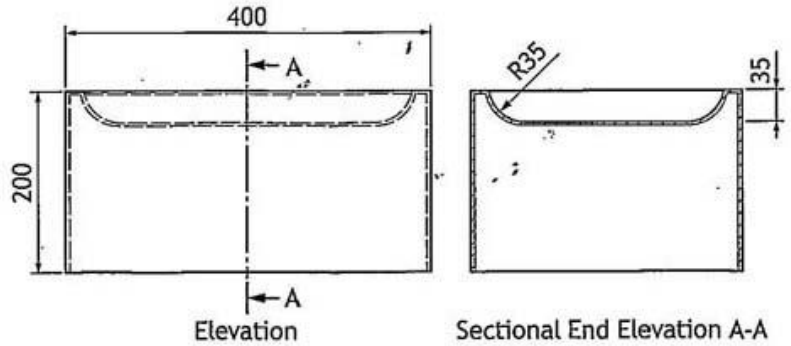


An orthographic drawing of one of the orange lighting pods is shown below.



Plan

Please note:
Wall thickness = 3 mm



Elevation

Sectional End Elevation A-A

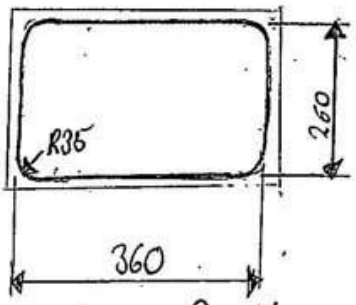
3. (continued)

(a) Describe, using the correct dimensions and 3D CAD modelling terms, how you would use 3D CAD software to model the orange lighting pod. You may use sketches to support your answer. 6

① Sketch a 2D Rectangle profile measuring 400mm by 800mm.

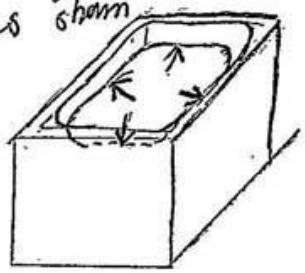
② Extrude the profile by 200mm.

③ Sketch this 2D profile on top of the box.

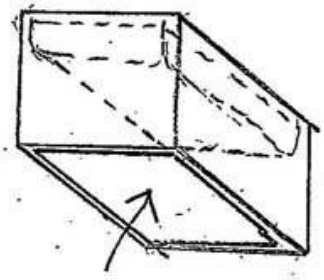


④ Extrude subtract this profile by 35mm

⑤ Fillet the inner edges of the extracted area as shown. Fillet by 35mm

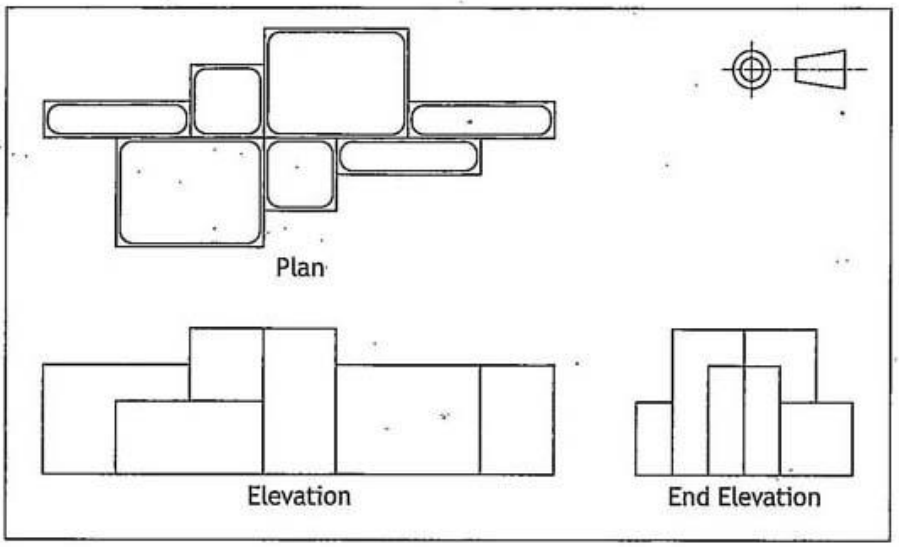


⑥ Shell this box by 3mm and click on the bottom of the box to leave it open



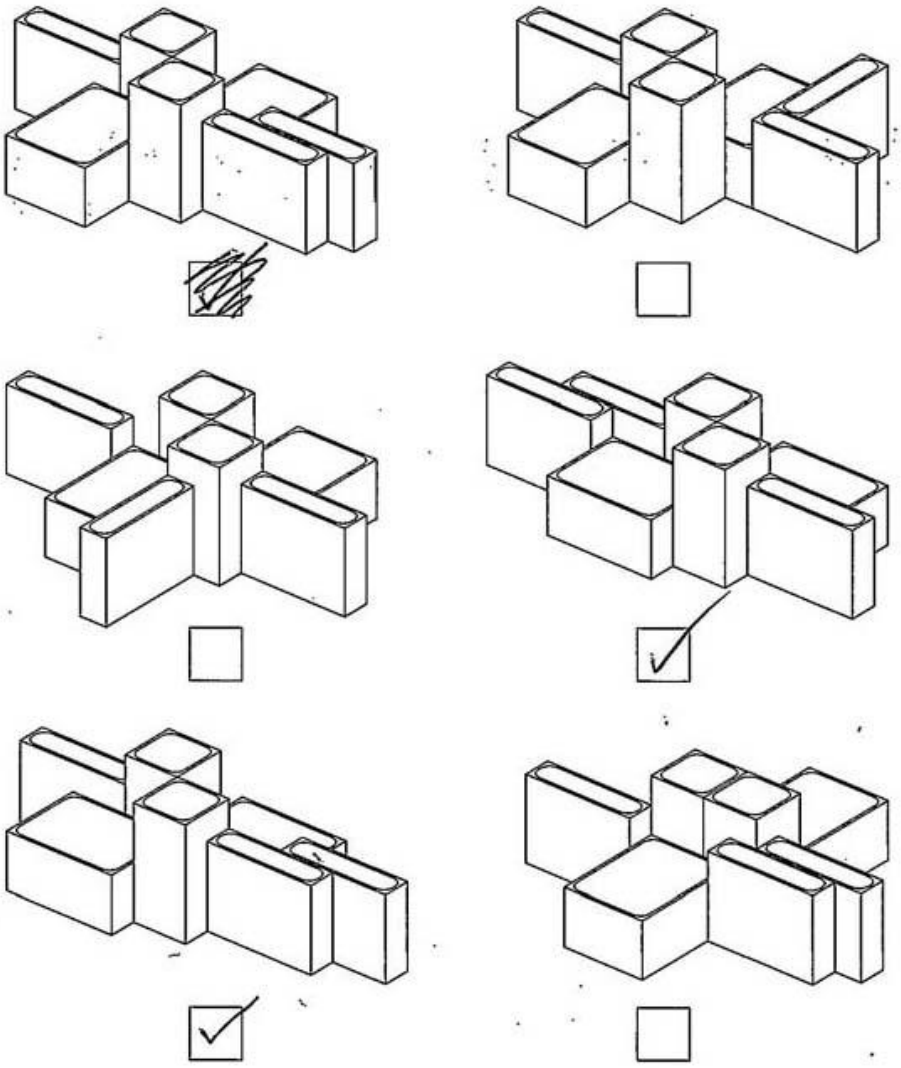
3. (continued)

Orthographic assembly views of an arrangement of the lighting system are shown below. Hidden detail removed for clarity.



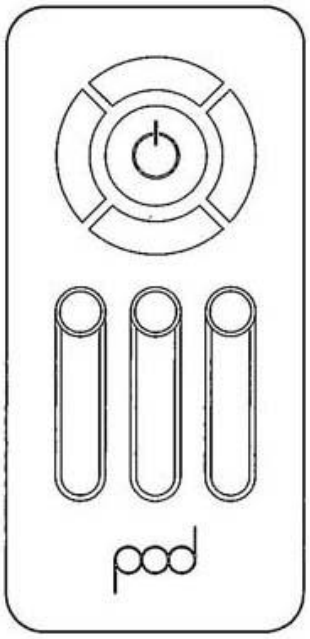
3. (continued)

(b) Identify, using a tick (✓), the two pictorial assembly drawings that match the arrangement in the orthographic assembly drawing shown. 2

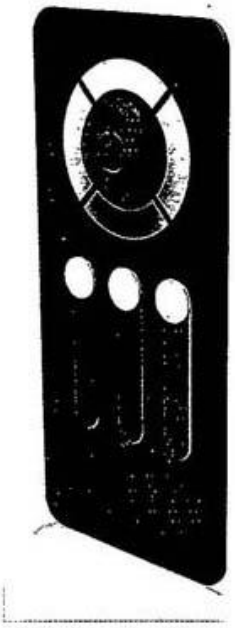


3. (continued)

A 2D CAD line drawing, produced using 2D CAD software, and a 3D CAD model of a control panel for the lighting system are shown below.



2D CAD Line Drawing



3D CAD Model

(c) Explain why the 2D CAD line drawing can be produced more quickly than the 3D CAD model of the control panel. 1

A 3D Model has another set of dimensions on a new axis a 2D only has 2 axis and therefore less information to put in

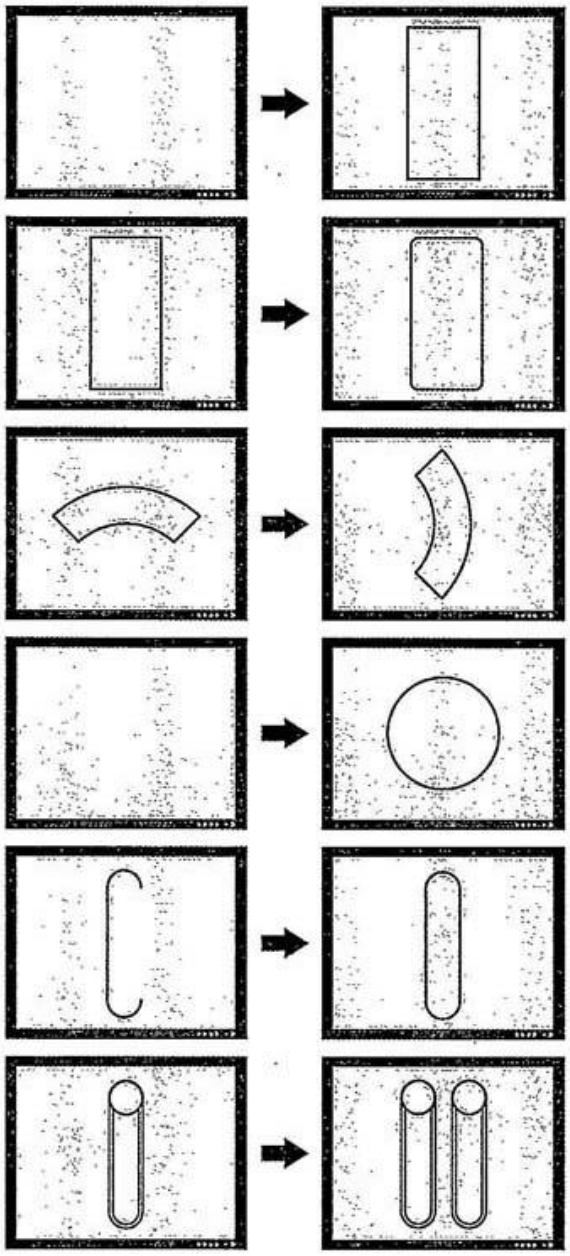
(d) Describe two benefits of a 3D CAD model over a 2D CAD drawing. 2

- Allows a customer to see the complete remote in 360° view.
- A 3D Model could be animated if it had functions. (ie. buttons or sliders)

3. (continued)

To create the features of the control panel a number of 2D CAD tools were used.

(e) State the name of the **single** CAD tool used in **each case.** 6



(i) Tool used
2D Rectangle

(ii) Tool used
Fillet

(iii) Tool used
Rotate 90°

(iv) Tool used
2D Circle

(v) Tool used
2D Line

(vi) Tool used
Copy or Mirror

3. **(continued)**

Three line types that will be used to complete the 2D CAD drawings to British Standard conventions are shown below.

(f) State the uses of the following line types.

(i) A chain thin line 1

Centre Line

(ii) A continuous thick line 1

Outline

(iii) A long dash dotted thin line, thick at ends. 1

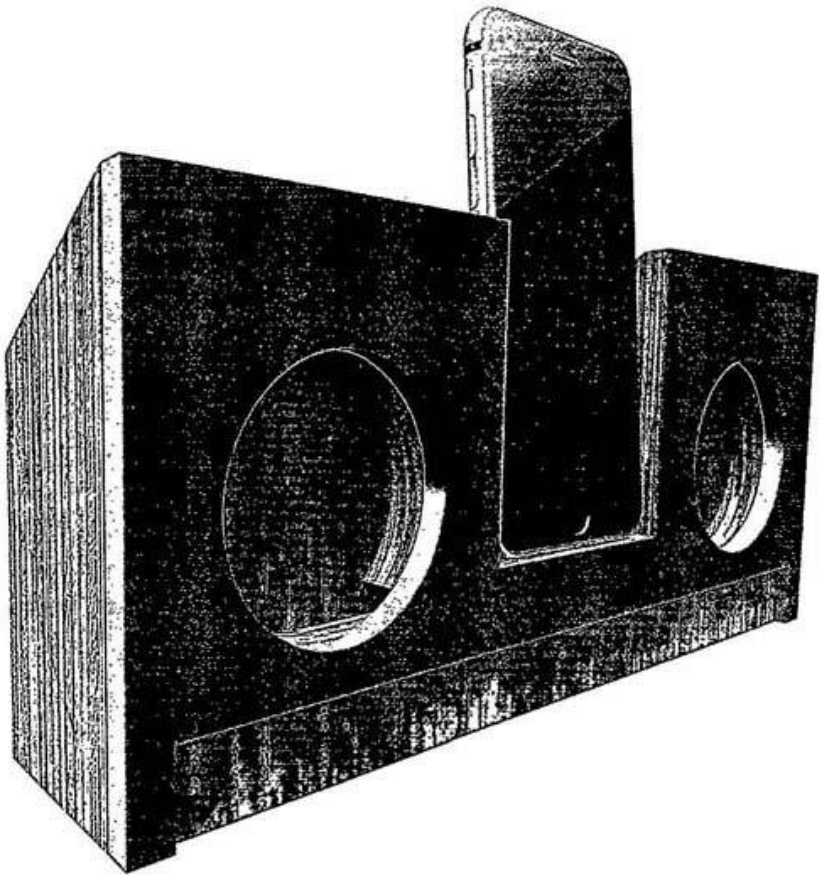
Section Line

The 2D CAD drawings are to be drawn using a scale.

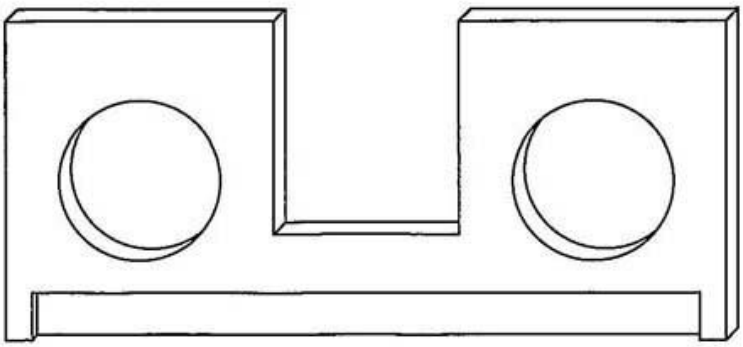
(g) Explain what is meant by the term scale 2:1. 1

For every 2mm drawn it represents 1mm in real-life.

4. A speaker has been designed using 3D CAD software. A rendered illustration is shown below.



A pictorial view of one of the speaker components is shown below.

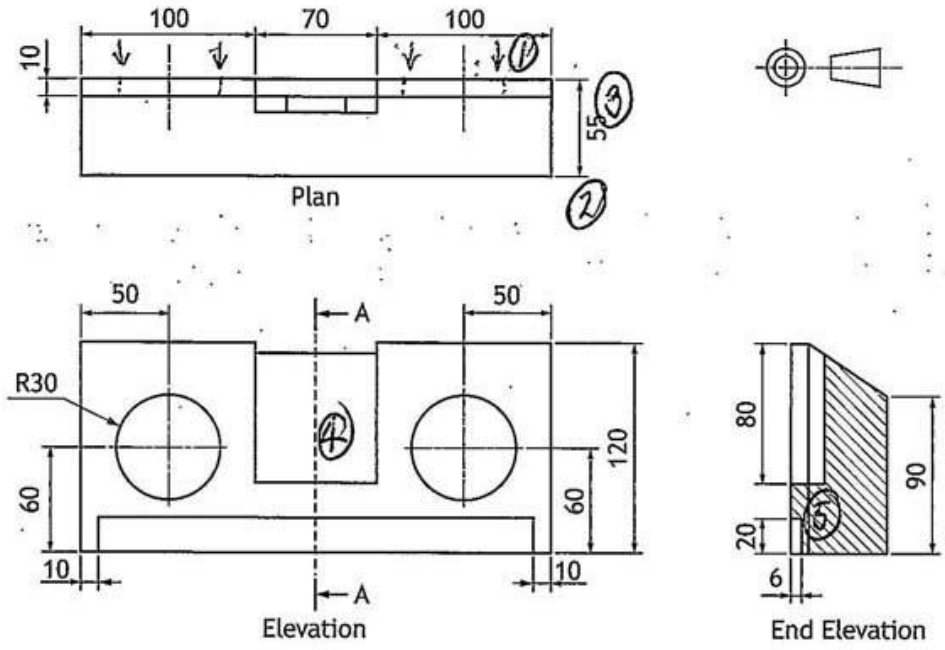


(a) State the type of pictorial view shown above. 1

Oblique

4. (continued)

A working drawing of the speaker assembly is shown below.



Five pieces of information in the working drawing do not adhere to British Standard conventions.

(b) State the five errors found in this drawing. 5

You may annotate the orthographic drawing to support your answer.

① Shold have hidden detail lines for the circles.

② The plan is the wrong way around it should be rotated 180°

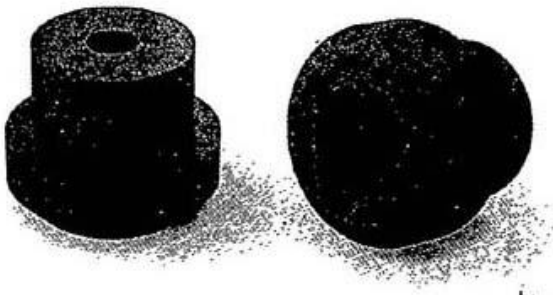
③ '55' should be the other side of the the.

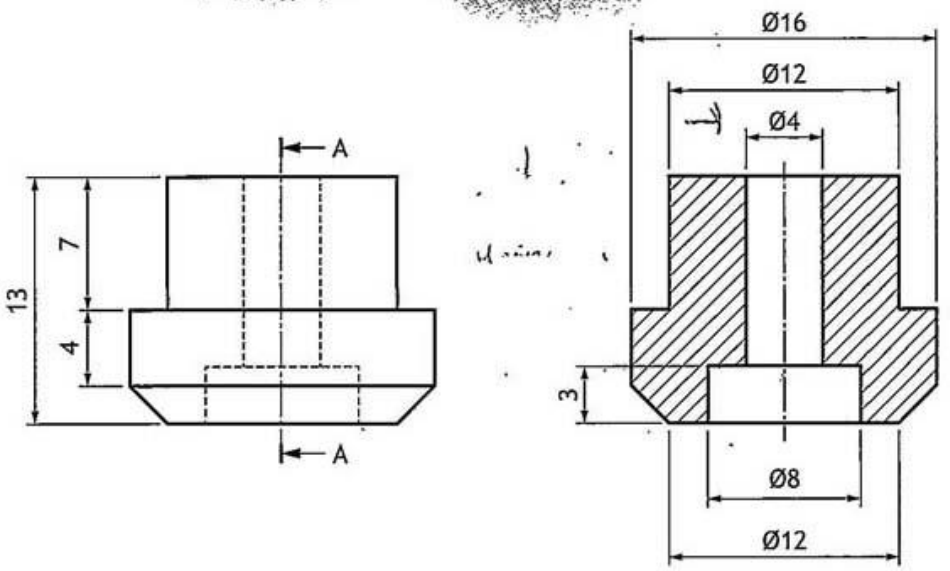
④ Section line should be Dot, Dash, Dot with 2 thick end lines →

⑤ One section of that hatching should be different to the other and not the same, if it is the same part the outline between them should be removed.

4. **(continued)**

Rubber feet are to be added to the base. Orthographic views and 3D illustrations of a rubber foot are shown below.





Elevation

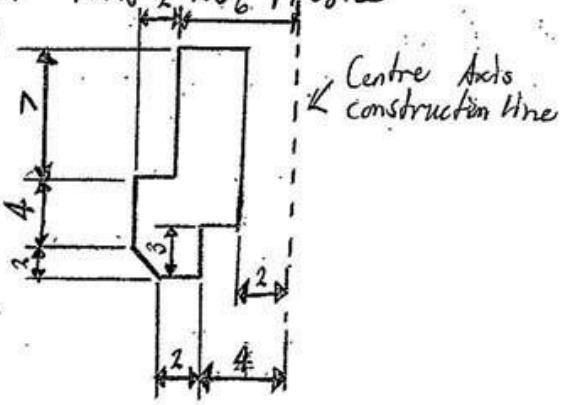
Sectional End Elevation A-A

4. (continued)

(c) Describe, using the correct dimensions and 3D CAD modelling terms, how the rubber foot, shown opposite, would be produced. 3

You may use sketches to support your answer.

① Sketch this 2D profile



② Revolve this profile around the Centre Axis construction line by 360°

4. (continued)

The orthographic drawings of the speaker were shared online.

(d) Describe two benefits of sharing these orthographic drawings online. 2

- To allow technical people to see what the object looks like and its dimensions.
- To allow some people to make their own speaker

(e) Explain why it would be useful to adhere to British Standard conventions and protocols when sharing these types of drawings. 2

- So everyone understands the common symbols used so there is no confusion, cluttered
- Also there is less text to explain everything as they use symbols.

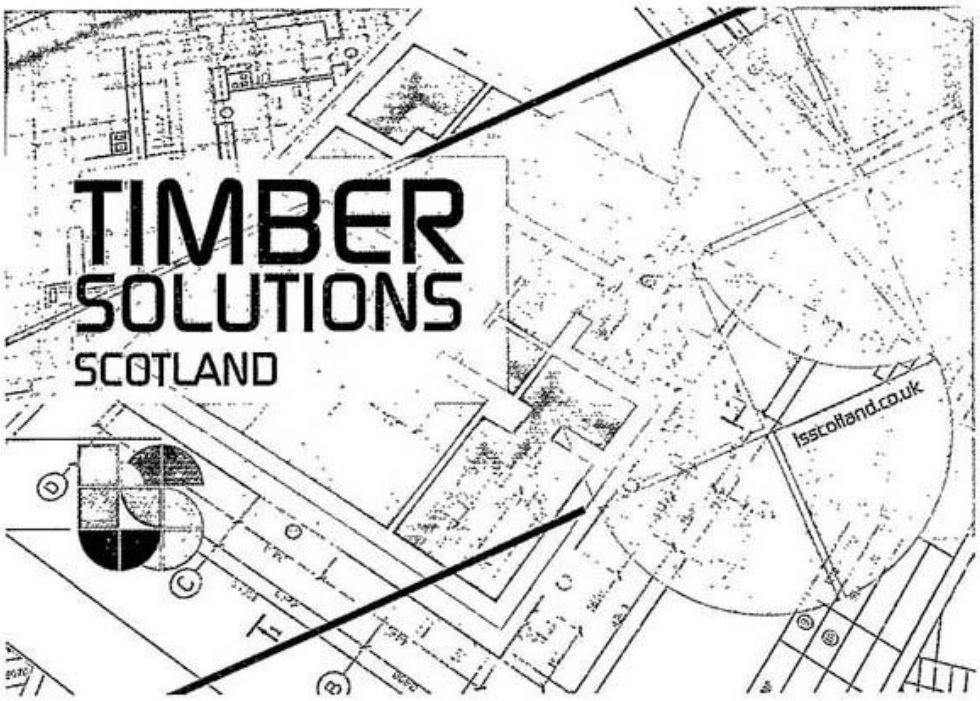
(f) Explain the purpose of the following types of production drawings.

(i) Sectional views To see inside the object at other details working on the inside. 1

(ii) Assembly drawings To see all the different parts together to see how they sit with one another. 1

5. Many companies now specialise in applying promotional graphic posters, to advertise services to the public, around commercial vehicles.

A finished layout for a small building company is shown below.



5. (continued)

The design work for the layout was produced by a graphic designer.

(a) Describe two ways in which the graphic designer used the following design elements and principles to enhance the layout.

(i) Line 2

- Lines have been used on the background at the same angle as the logo to draw your eye to it.
- The line is also used to create structure with the website texts allignment

(ii) Dominance 2

- The company name is dominant as the colours make it stand out from the background.
- The background logo is also dominant because of its size compared to everything.

(iii) Colour 2

- Accent colour of brown is used on the company name and website, the brown is brought out against the receding blue.
- The white background is used to make the front stand out more.

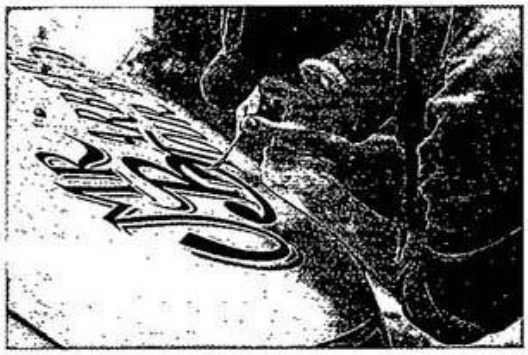
The blue also conveys sophistication and brown conveys nature.

(iv) Unity 2

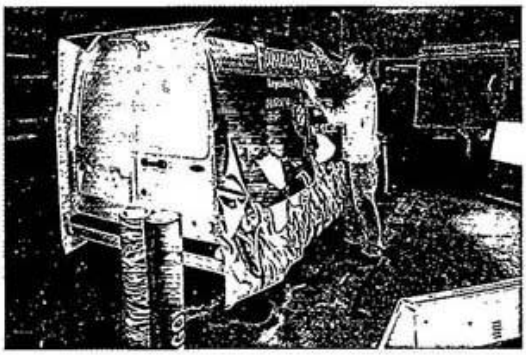
"Accent colour of blue unifies the logo and background logo. "The company name is also in close proximity to the logo unifying them together

5. (continued)

Vehicles were traditionally hand painted to include information about a company. Modern processes involve printing promotional graphics which are then applied to a vehicle.



Traditional painting technique

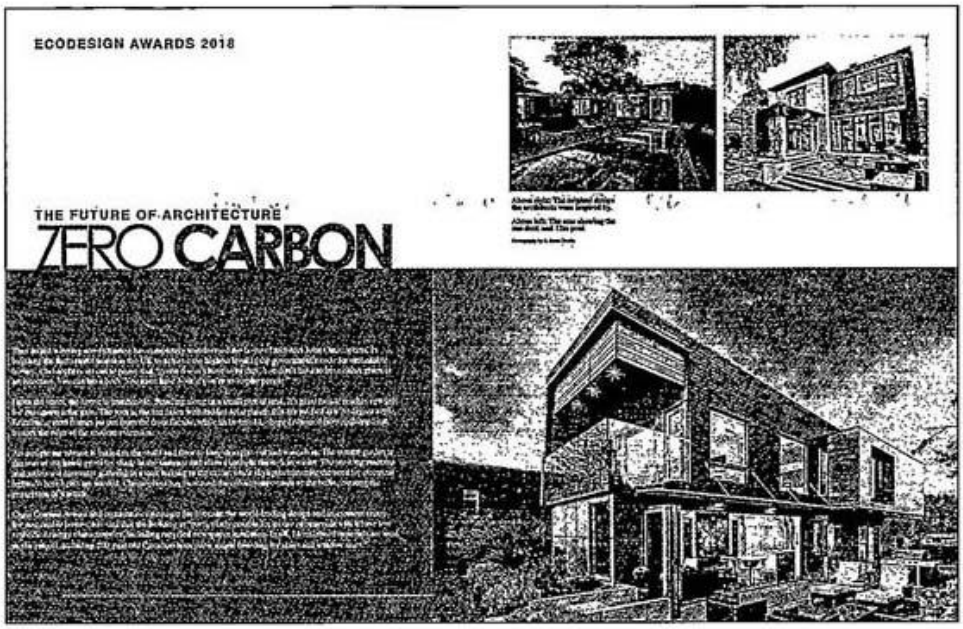


Modern printed technique

(b) Describe two advantages **to the client** of modern printing techniques over traditional painting techniques. 2

- Modern techniques are faster to put on and more accurate Labels.
- If there is a mistake made a print can easily be taken off and tried again a traditional paint would have to be painted over and started again.

6. A graphic designer submitted a draft layout for an architectural magazine article to the editor. The draft is shown below.



The editor provided some feedback to the graphic designer on how to improve the layout.

(a) Describe, using the feedback shown below, four improvements the graphic designer should make to the layout using **Desktop Publishing techniques.**

(i) *The word 'house' in the heading is difficult to see* 1

Use reverse text by making 'house' white.

(ii) *The large column of extended text makes it difficult to read* 1

Justify the text and create two columns to make it easier to read.

(iii) *The bottom image would look better without the sky in the background* 1

Use a full crop on the house so the sky is removed.

(iv) *The body text is too close to the edge of the paper* 1

Left allign the body text with the 'Zero Carbon' title.

6. **(continued)**

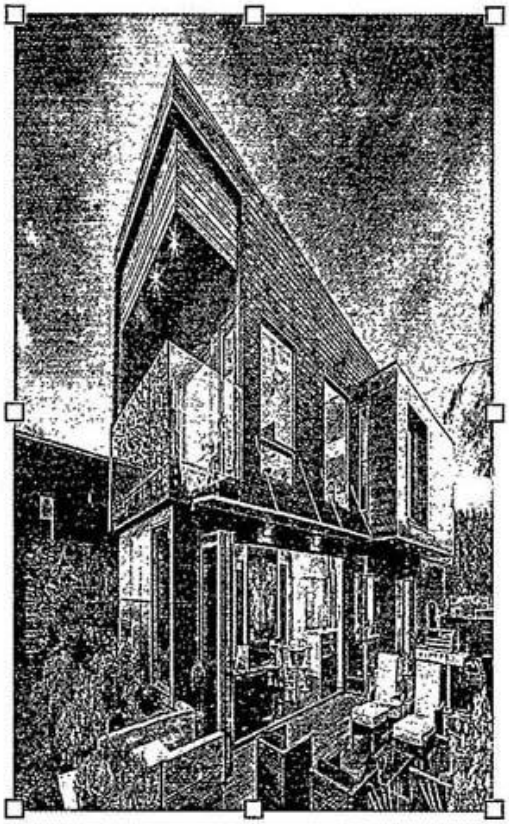
The graphic designer used a sans serif font for the heading.

(b) State two reasons why the graphic designer has chosen a sans serif font for the heading. 2

• Sans-Serif has connotations of modernism which is associated with the house.

• Sans-Serif can also appeal to a younger more forward looking market.

When inserting an image, the graphic designer used the handles of the image to increase its size. This resulted in the image being out of proportion, shown below.



(c) Describe how the graphic designer could have resized the image without altering the proportions. 1

Using the corner squares and dragging diagonally to change the size but not proportions

6. (continued)

During the production of the layout, using desktop publishing software, the graphic designer used **guidelines.**

(d) Describe two advantages of using guidelines in the creation of promotional layouts. 2

- It allows things to be accurately aligned.
- This creates structure and unity within the graphic.