

- Zeus Electronics are promoting their new communicator, the L-COM. Their promotions team have drawn up two promotional layouts for consideration, shown below.

L-COM Promotional layout 1



L-COM Promotional layout 2



Layout 1 was produced first. DTP edits were then made to some of the items to create layout 2.

	DTP edit
The L-COM product name	rotate/flip
The slogan ('A NEW DAWN ...' etc.)	flow text along a path
The body text	left aligned or text wrap
The image of the L-COM product	drop shadow

1. (continued)

It is important to create unity in a layout in order to hold the layout together and improve visual impact.

- (b) Describe two ways in which the graphic designer has created unity in layout 2. 2

Layering and overlapping images on top of other images creates a physical connection; using an accent colour (red or blue) in more than one area creates a unity through colour; text wrap creates a connection between the body text and the product. (Any two) 2

In both layouts the product image of the L-COM communicator is the dominant item in the layout.

- (c) Explain two things the graphic designer has done to make the product image the dominant item. 2

The product is pictorial and creates a strong 3D image; the product is in perspective and has a near corner and a far corner; the product is on the top layer; the drop shadow creates depth and emphasis. (Any two) 2

The graphic designer felt it was important to include eye-catching contrast in the layouts. One way he achieved this was through the use of colour.

- (d) State two **other ways** in which the graphic designer has created contrast in the layouts. 2

Vertical colour fill and horizontal line; near and far; 2D shapes and a 3D image; large and small text. (Any two) 2

The yellow and orange flash-bar behind the layout has been changed in layout 2 to create a style of balance that offers more visual impact.

- (e) State the style of balance achieved by the change. 1

Asymmetric balance

1. (continued)

The red line in layout 2 is carefully chosen and positioned to enhance the layout.

- (f) Describe one way in which the red line benefits layout 2 (do not repeat a previous answer). 1

It creates depth by passing behind the product image; it helps create asymmetric balance; it creates contrast with the blue fill colour; it creates unity with the red button; it creates strong alignment with the header and footer

The web address and the 'World Electronics' text are placed in the spaces at the top and bottom of the layouts.

- (g) State the names given to these spaces in a layout. 2

Space at the top Header Space

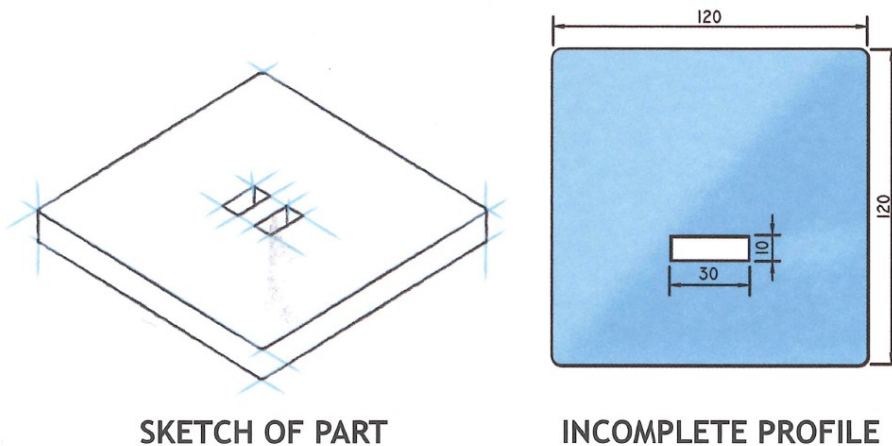
Space at the bottom Footer Space

- (h) State the name of the DTP feature applied to the web address in layout 1. 1

Reverse Text

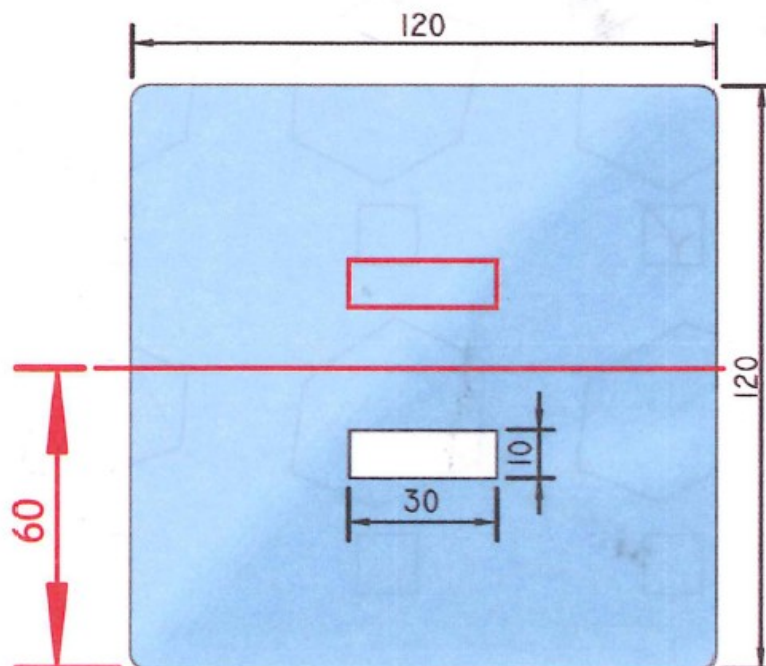
Total marks 15

The design engineer used the extrude command to make the base of the lamp. The base of the lamp requires two rectangular holes, identical in size and accurately centred on the base, to allow the vertical components to fit in. An incomplete profile with one rectangle correctly in place is shown below.



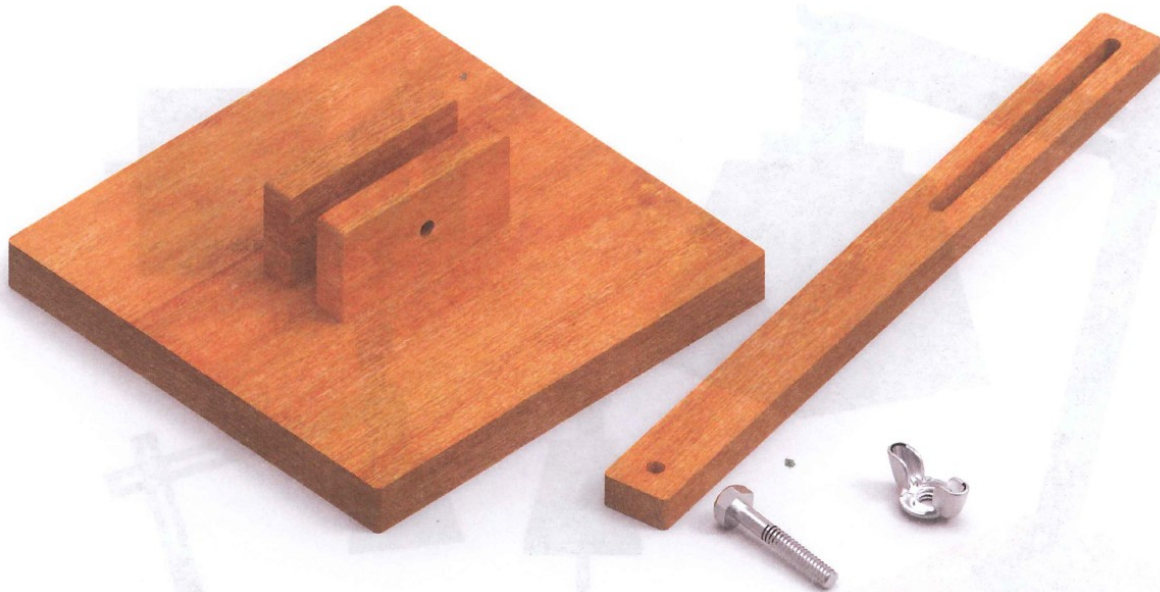
- (a) Describe how the second hole can be drawn on the incomplete profile using only the information shown here. You may sketch directly onto the incomplete profile to help explain your answer. 2

2. (a) Draw a construction line horizontally through the incomplete profile. (In the middle - 60 mm from top and bottom). (1 mark)
 Select the rectangular slot and use the mirror tool to mirror the rectangle about the centre. (1 mark) 2



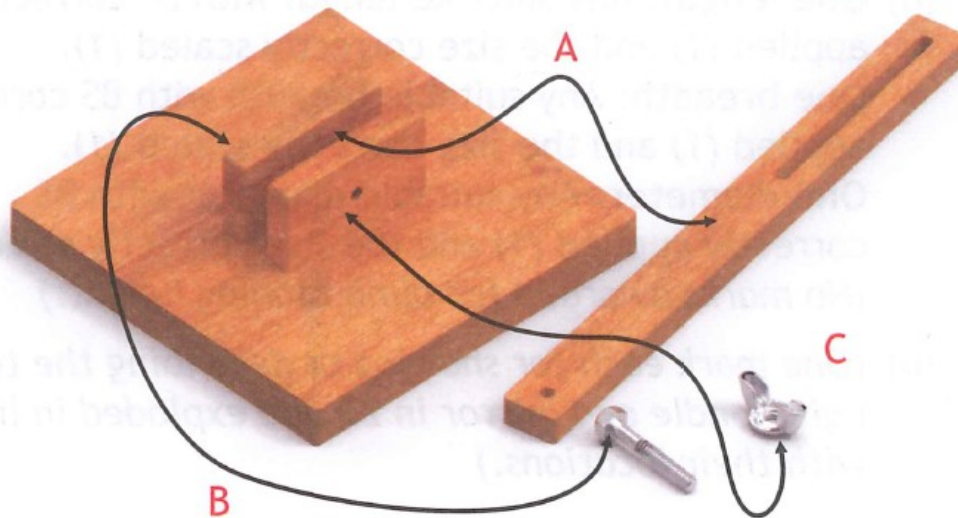
2. (continued)

A range of CAD components are illustrated below.



- (b) Describe, using 3D CAD terms, how you would assemble and constrain the components above. You may use sketches to illustrate your answer. 4

(b)



Centre axis to the upright, nut and bolt to the base.
 Mate the flat face of upright to inside of base (A to A as shown above).
 Mate the flat face of bolt to outside of base (B to B as shown above).
 Mate the flat face of the nut to outside of base (C to C as shown above).

4

2. (continued)

The bolt and the wing-nut were loaded from a 3D CAD library of standard components.

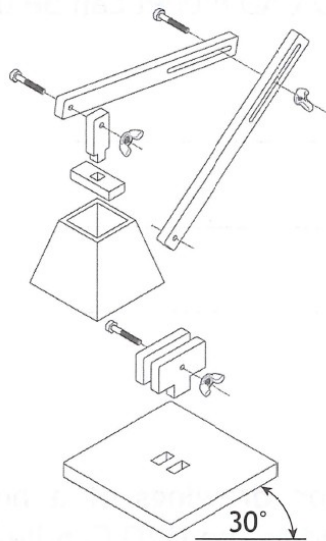


- (c) Describe two benefits of a CAD library of standard components.

2

Standard components are pre-drawn and can be assembled directly – this saves time. They are drawn to the particular standards of common component parts and can be modified as the design develops and changes.

2



VIEW X

- (d) Identify the type of pictorial view shown at view X.

1

Exploded isometric view.

- (e) Explain how view X can be used to support a customer.

1

Customers can see easily see how the lamp assembles, customers do not need to understand complex orthographic drawings; customers may find it easier to follow a drawing rather than a written description.

2. (continued)

Two illustrated versions of the lamp are shown below.



The design engineer illustrated the 3D CAD model by applying different materials. This tested the appearance of the lamp in different materials and colours.

- (f) Describe two other ways the 3D CAD model can be used to test the design of the lamp. 2

The lighting effect can be simulated; the range of motion can be tested; the strength of materials can be tested. (Any two) 2

Total marks 12

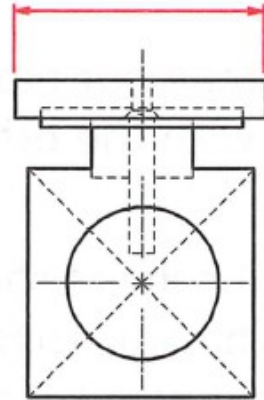
3. Images and orthographic production drawings of a new candle holder are shown opposite. It is being marketed as the OVO Candle Holder.

The OVO Candle Holder is a single component and has a second component, the mirror, added. It is not sold with the tea-light candle and the drawings below do not include a tea-light candle.

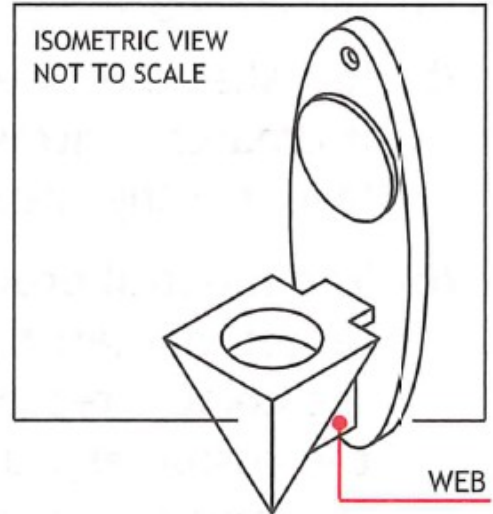


3. (a)

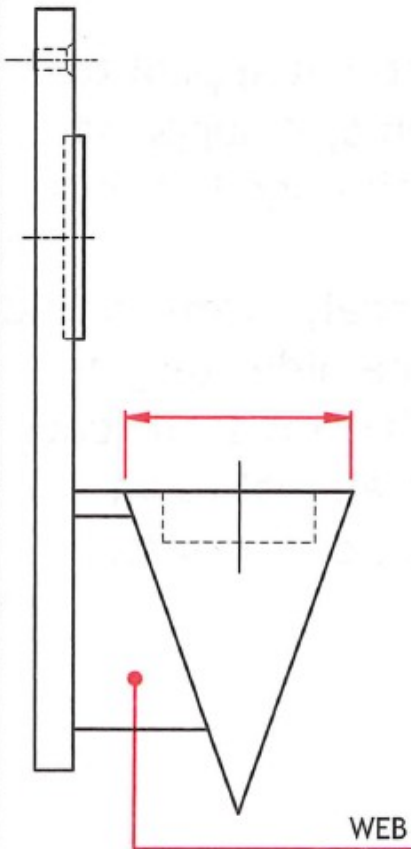
OVO Candle Holder
Date: 14.9.13
Drawn by: A Smith
SCALE 1:2



PLAN

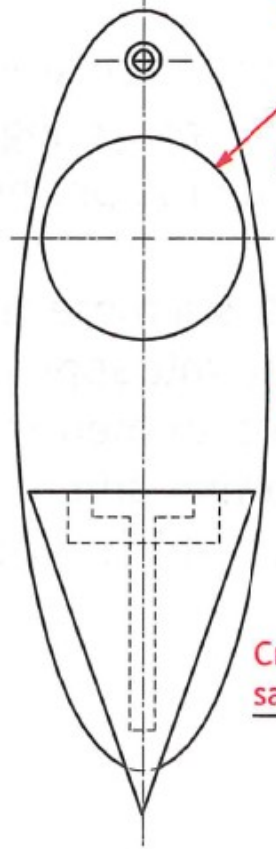


WEB



WEB

END ELEVATION



ELEVATION

Cross-hatch same direction - 1

$\emptyset??$

Cross-hatch opposite direction - 1

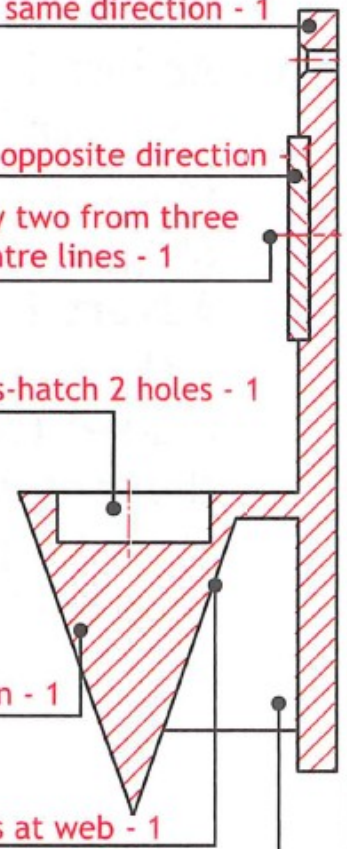
Any two from three
centre lines - 1

Do not cross-hatch 2 holes - 1

Cross-hatch
same direction - 1

Three lines at web - 1

Do not cross-hatch web - 1



SECTION A-A

3. (continued)

The orthographic production drawings are to be dimensioned to support manufacture.

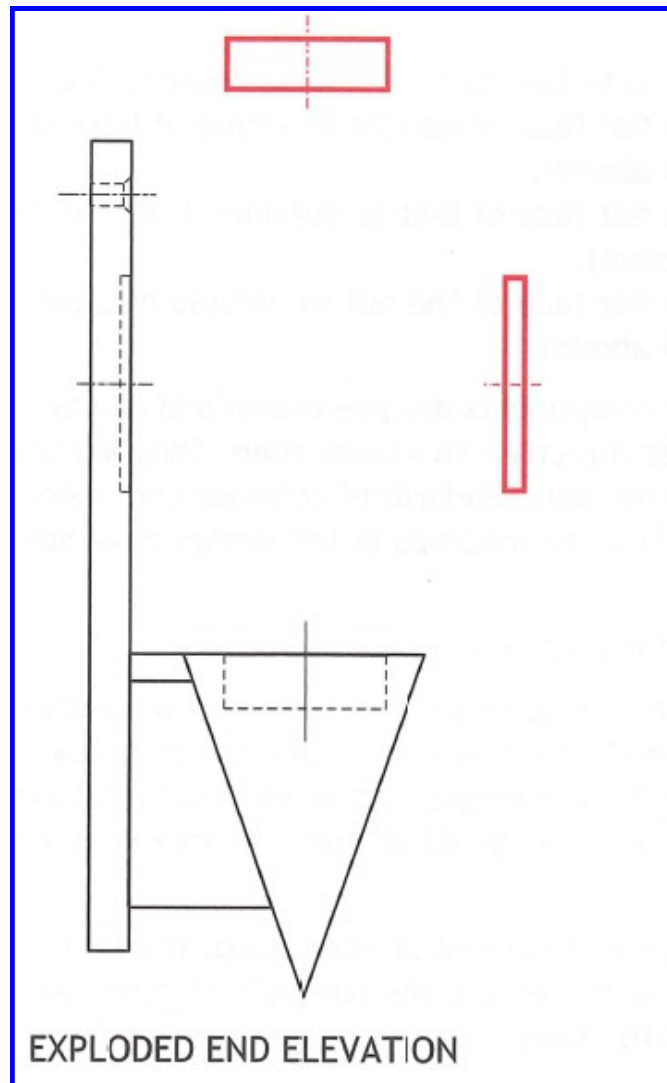
- (b) Add three dimensions, of the types listed below, to the orthographic views on the previous page.

Measure three suitable sizes on the drawings before adding the dimensions, correctly applying British Standards conventions, including scale.

- One length 2
- One breadth 2
- One diameter 2

The end elevation shown below is to have the mirror and tea-light candle added in an orthographic exploded view.

- (d) Indicate suitable positions for the mirror and the tea-light candle in the exploded end elevation below. You may sketch or draw your answer or annotate the drawing to explain your answer. 2



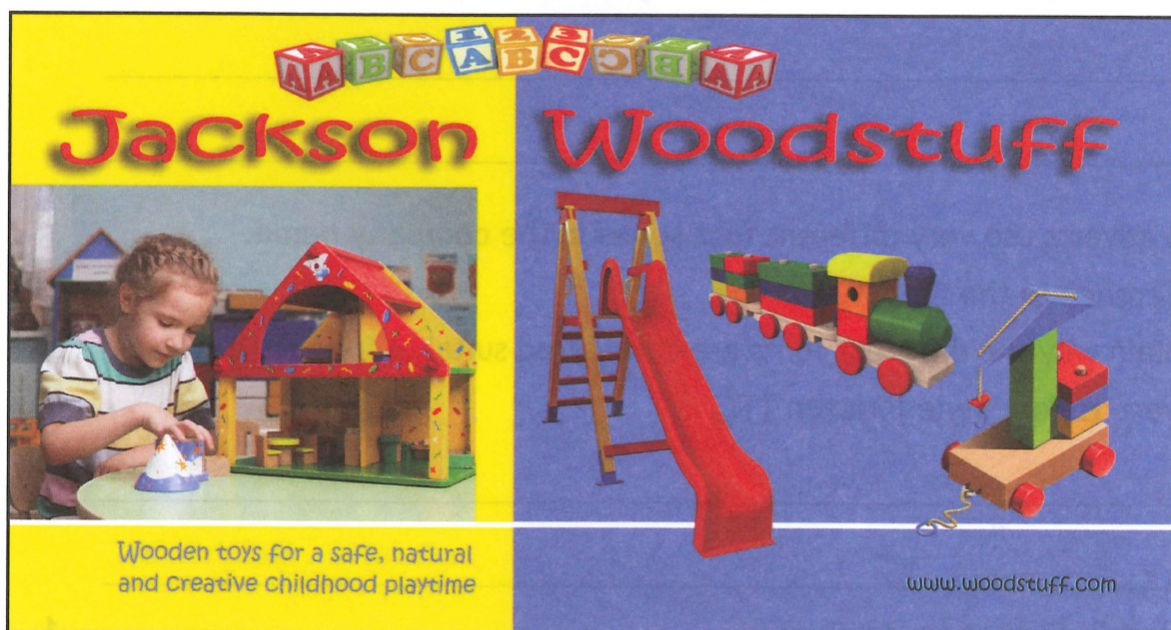
4. A company who specialise in scale model construction kits and wooden toys have produced two promotional adverts. The adverts will be used to promote the company to different target markets.

The first advert is aimed at a **target market** comprising:

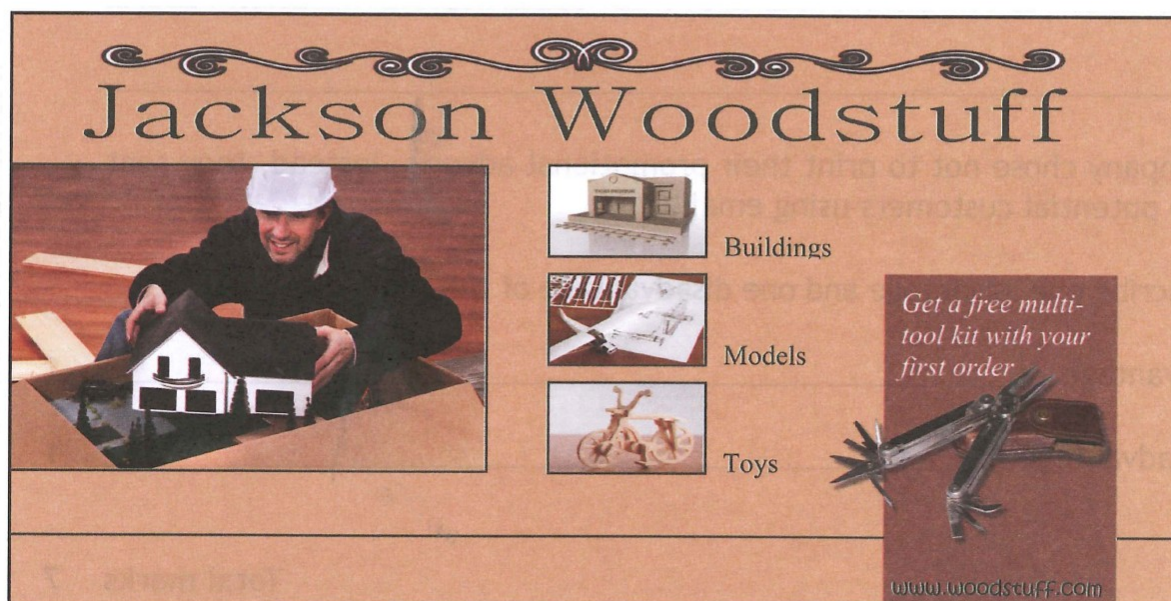
Gender Male and female,
 Age 8-12 years and their parents
 Interests Toys and creative play
 TV influences Cartoons and children's programmes

The second advert focuses on a **target market** comprising:

Gender Male
 Age 35-65 years
 Interests Crafts and modelling
 TV influences Home improvement shows



Advert 1



Advert 2

4. (continued)

Advert 1 makes use of the colour red in the company name.

- (a) State whether red is an advancing or a receding colour. 1

Advancing colour

- (b) Describe the effect this colour has on the title in the layout of advert 1. 1

It makes the title stand out more; it throws it forward; it creates contrast with the other main colours in the layout. (Any one) 1

- (c) Explain why the colours used in the layout of advert 2 were chosen. 1

Neutral browns - appeal to older target market;; suggest natural materials; represent woodcraft; the colours give advert a more traditional look

The two adverts use very different font styles in the company name.

With reference to the font styles:

- (d) Explain why the different fonts are considered suitable for each advert.

Advert 1: Font Style Kristen ITC

Advert 1: The font is a fun style that will appeal to young children and their young parents; it supports (matches) the fun theme promoted through the toys.

Advert 2: Font style Batang

Advert 2: The font is a more traditional, formal or old fashioned style that will appeal to the older target

The company chose not to print their promotional adverts. Instead, they sent them to potential customers using email.

- (e) Describe one advantage and one disadvantage of this marketing approach.

Advantage **Reduces paper costs / It is immediate / Personal link** 1

Disadvantage **Limits availability to potential customers** 1

Impacts on employment

Requires large Database of contacts

Total marks 7

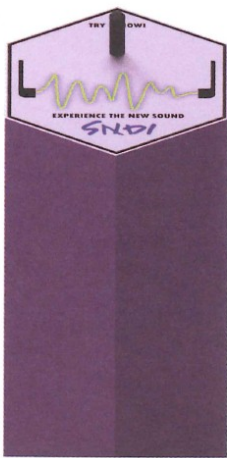
5. A new set of headphones have been released by SND1.

To promote their new headphones, SND1 have employed a graphic designer to create a new display stand. The display stand will be made from sheet metal.

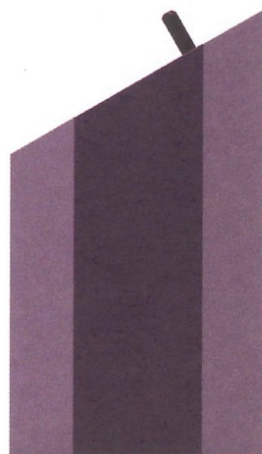
3D CAD illustrations and orthographic views of the design are shown below.



PLAN



ELEVATION



END ELEVATION

ILLUSTRATED
PICTORIAL VIEW

The graphic designer chose to make a 3D CAD model rather than a full-size card prototype of the display stand.

- (a) Give two reasons why a 3D CAD model was more suitable than the card prototype. 2

It is quicker/easier to modify a CAD model; CAD models can be used to create a surface development; CAD models can be illustrated to look like metal; CAD models can be illustrated in a range of scenes; it is easier to store a CAD file than a physical model.

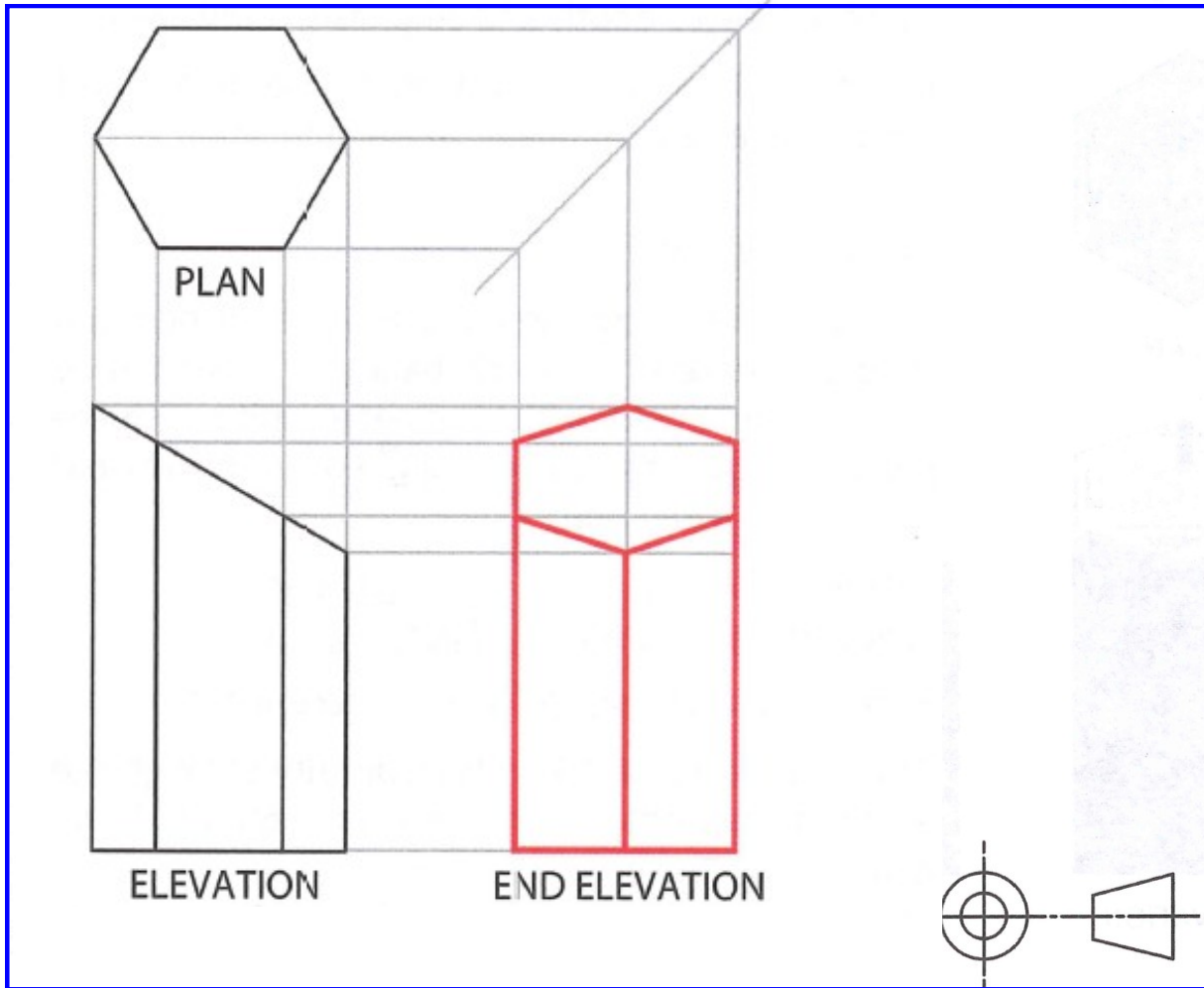
The graphic designer gave the illustration to a CAD engineer, including key information about the display stand. One piece of information stated: A/C 400mm.

- (b) Explain the term 'A/C' and how it is used to draw this product. 2

A/C means 'across corners'. It refers to the size of the hexagon on the display stand. 2

5. (continued)

The graphic designer initially only made the illustrated pictorial view of the stand. The CAD engineer created the orthographic views shown below.



- (c) Give two reasons why the CAD engineer would produce orthographic views of the display stand. 2

To aid manufacture; to aid production drawings with sizes; to add dimensions; to aid the DTP for the true shape on top; to understand the proportions of the stand from each elevation. (Any two) 2

- (d) Complete the end elevation shown above by plotting the edges on the surface generators. You may sketch or draw lines or plot corner points. Do not include hidden detail. 4

5. (continued)

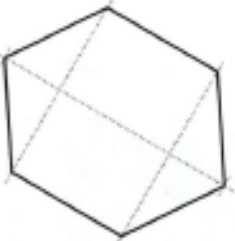
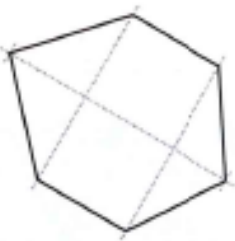
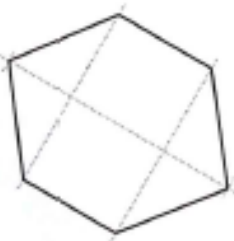
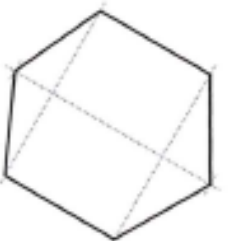
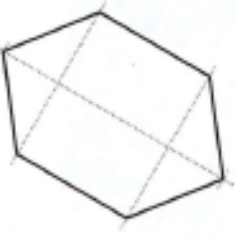
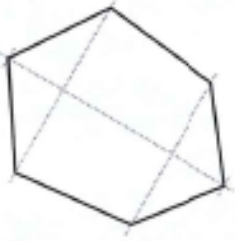


MARKS
DO NOT
WRITE IN
THIS
MARGIN

The graphic designer used 2D CAD software to generate the true shape of the sloping face of the hexagonal prism.

(e) Identify the correct true shape by ticking a box below.

1

Total marks 11

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>

1