



# Graphic Communication Prelim

Date — February 2015

Duration — 2 hours

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Name

Number of seat

**Total marks — 70**

Attempt ALL questions.

Write your answers clearly in the spaces provided in this booklet.

All dimensions are in mm.

All technical sketches and drawings use third angle projection.

You may use rulers for measuring.

In all questions you may use sketches and annotations to support your answer if you wish.

Use **blue** or **black** ink.

Before leaving the examination room you must give this booklet to the Invigilator;

if you do not, you may lose all the marks for this paper.

Question	Marks
1	
2	
3	
4	
5	
6	
7	
8	

Mark

Attempt ALL questions

Total marks 70

MARKS

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1. (a) State the Illustration and Presentation terms described below

(i) A colour gradually blending into another colour

Term \_\_\_\_\_

1

(ii) An area of white to show reflected light

Term \_\_\_\_\_

1

(b) Describe **tonal scale**. You may use a sketch to aid your answer

1

(c) Layering is a feature available in some CAD packages.

State two advantages that could be gained when using this feature.

Advantage 1

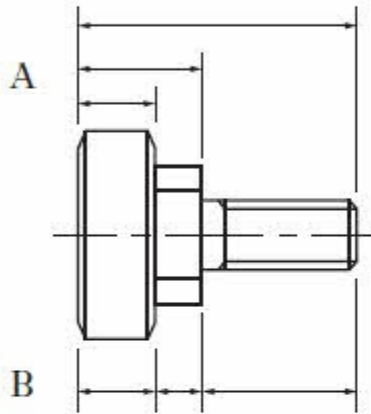
  
  
  
  
  
  
  
  
  
  

Advantage 2

1

1

2. (a) State the two types of dimensioning shown below at A and B



Type A \_\_\_\_\_

Type B \_\_\_\_\_

2

(b) In order to manufacture the component, accurate functional tolerances will have to be applied. Explain why type A would be preferable.

1

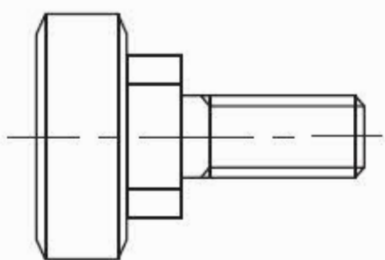
(b) Sketch on the elevation below, to British Standards convention:

(i) the 4 dimensions shown on the pictorial view

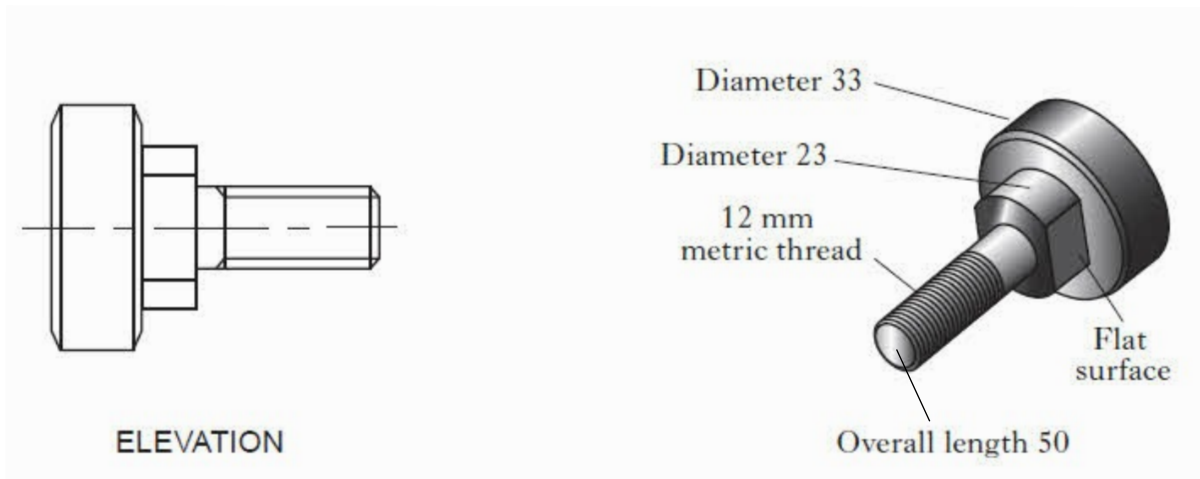
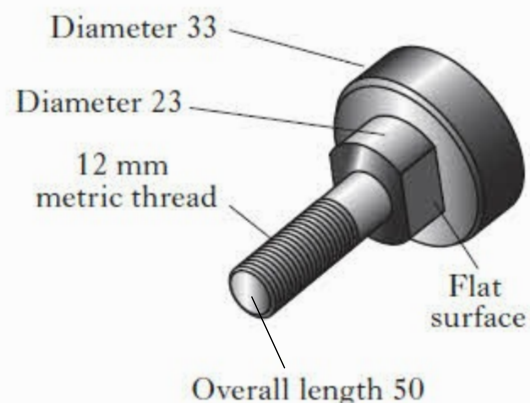
4

(ii) the flat surface

1

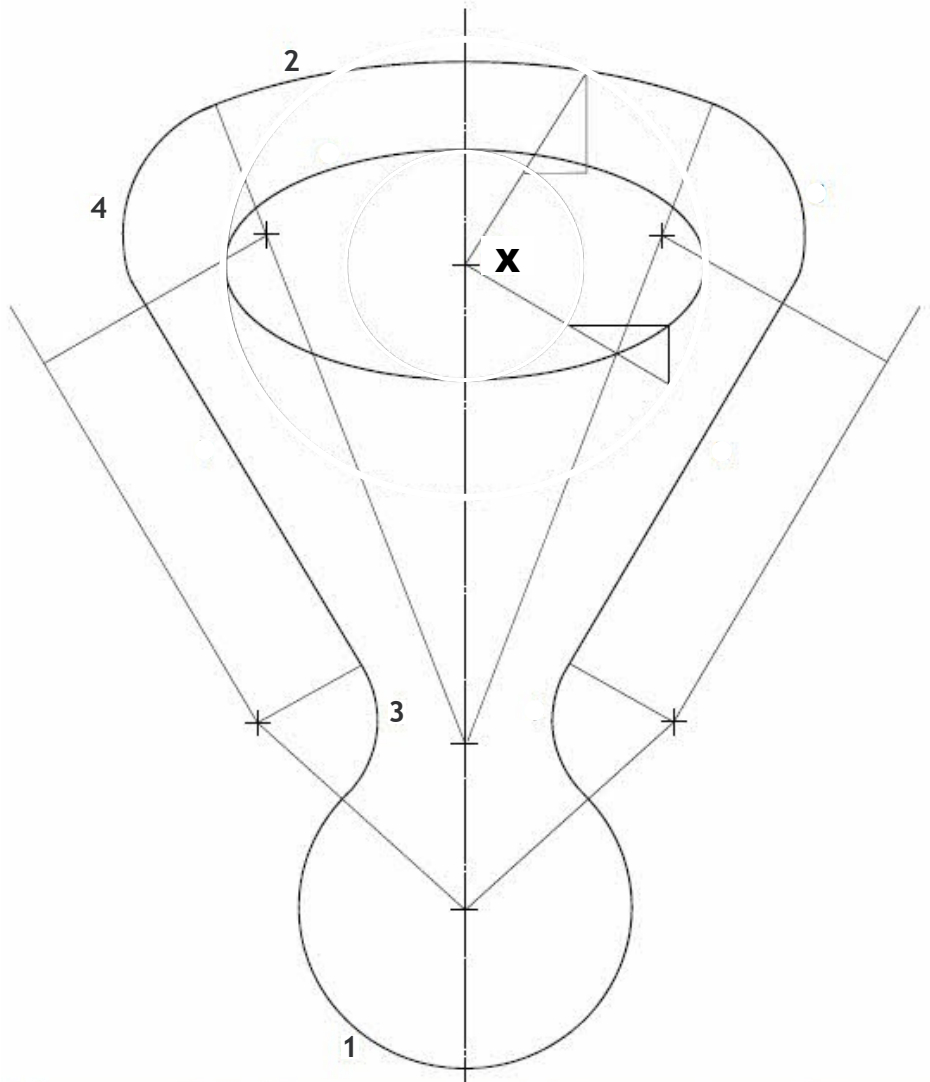


ELEVATION



3. An outline for a dogs play toy is shown below. It has been drawn using traditional methods, on the drawing board using the principles of tangency. Construction lines are also shown.

**MARKS** DO NOT WRITE IN THIS MARGIN



- (a) An ellipse is shown at X.

What are the full dimensions for the major and minor axis?

Major axis \_\_\_\_\_

Minor axis \_\_\_\_\_

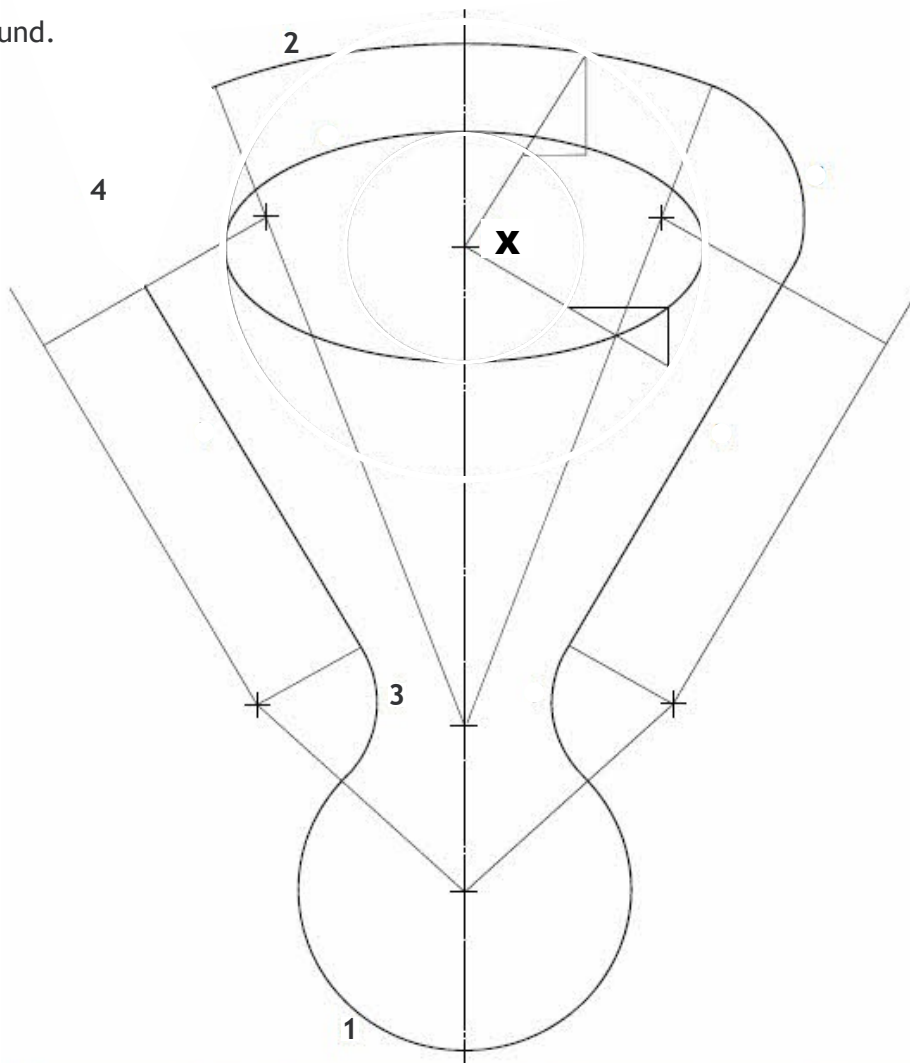
**3. (continued)**

(b) Find the radius shown at curve 1, 2 and 3.

Curve	Radius
1	
2	
3	

1

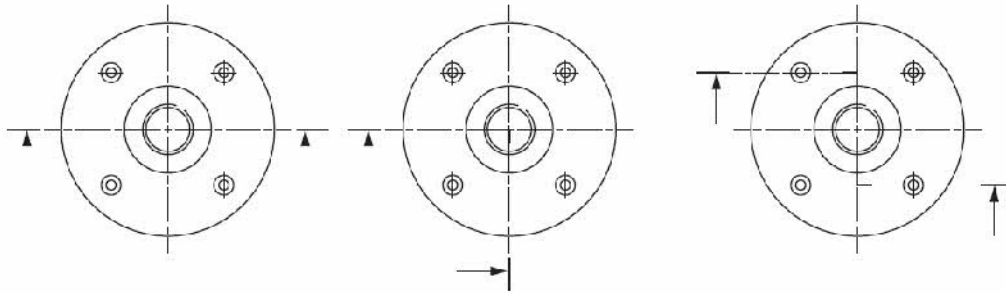
(c) The drawing is shown below incomplete. Describe, making reference to other points of the drawing, how the centre point of curve 4 could be found.



2

4.

(a) State the type of section produced by the three cutting planes shown below



(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(iii) \_\_\_\_\_

3

(d) Explain the purpose of producing a section drawing.

2

Attempt ALL questions

Total marks — 70

MARKS

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5. A public building that was constructed in the 1950s is to be modernised. The original drawings were produced manually in paper format. The architect has requested that the manual drawings be converted to a digital format and sent electronically.

The conversion methods being considered are: scanning the original drawings or reproducing the drawings using CAD software.

- (a) (i) Compare the two methods in terms of their suitability for this task.

4

## 5. (a) (continued)

- (ii) Explain two possible disadvantages that may be encountered when two different people or companies work together on the same project using CAD.

2

CAD simulation could be used to test aspects of the design of the building.

- (b) Identify an aspect of the design that could be tested through a CAD simulation.

1

- (c) Identify an advantage of a “paperless office” to an architectural business.

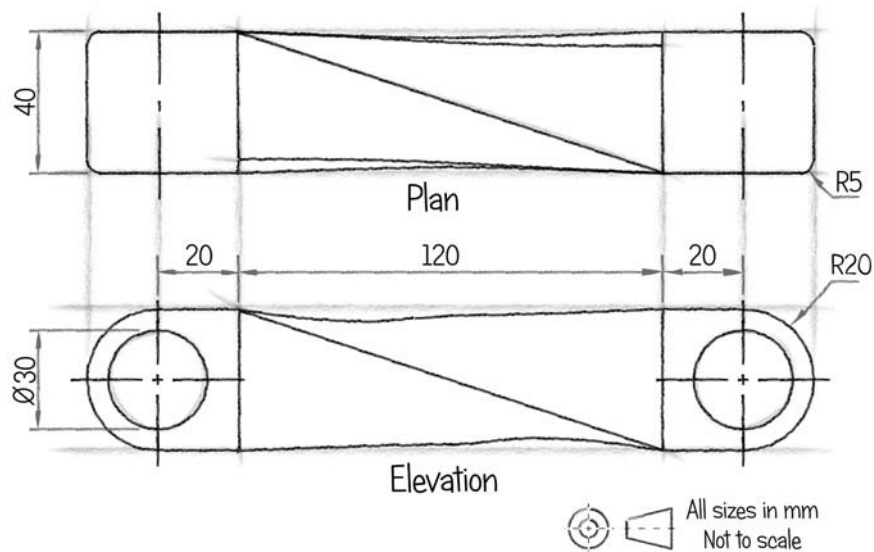
1



MARKS

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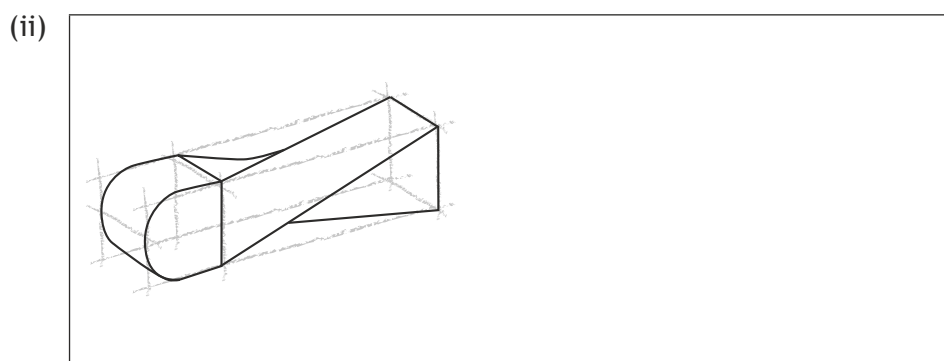
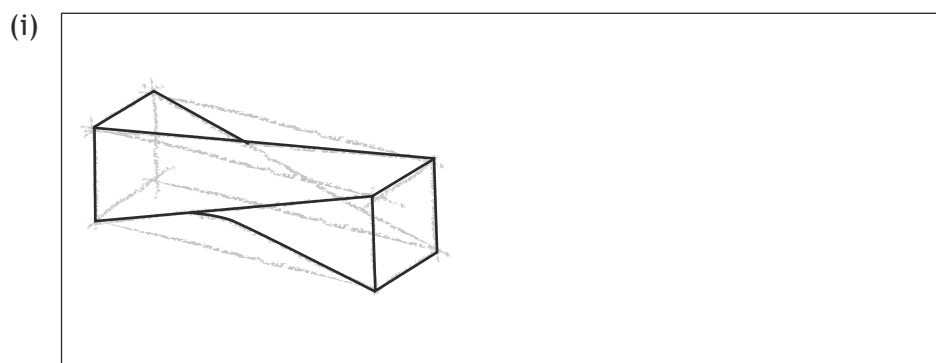
6. The sketches below were used by a CAD technician to create a 3D model of a portable speaker casing. The 3D model will be used to make production drawings and a promotional illustration.



Orthographic sketch

The CAD technician sketched a modelling plan before creating the 3D model. The first two stages of the modelling plan are shown below.

- (a) Describe the 3D modelling techniques proposed for each stage, making reference to all relevant dimensions from the orthographic sketch. You can sketch, annotate the sketches provided and/or use text in your answer.



6. (continued)

Solid model of the  
portable speaker casing



A solid model of the portable speaker casing and the two components generated from it are shown above.

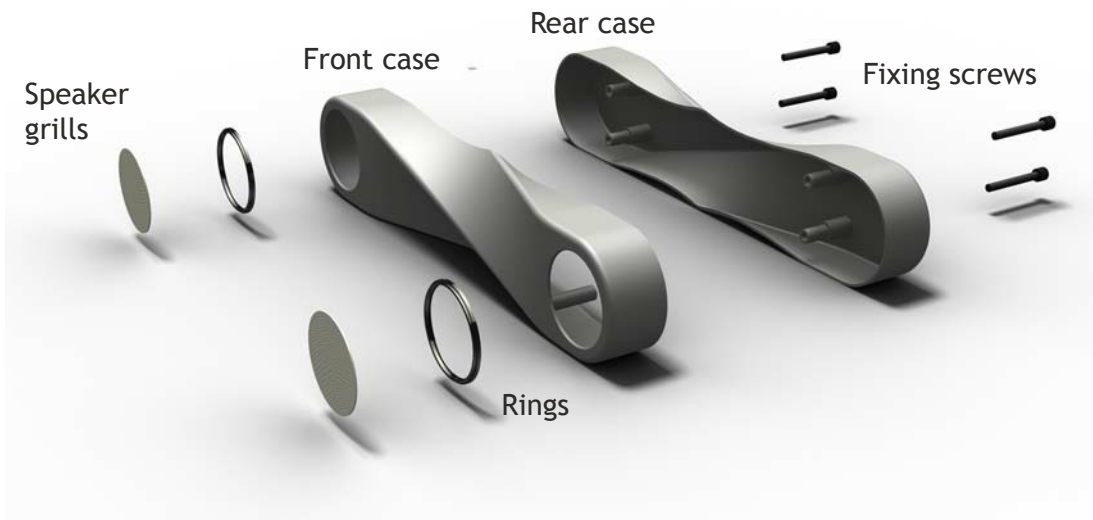
- (b) Describe, using a “top-down” approach, the techniques used to create the two component parts from the solid model. You can sketch, annotate and/or use text in your answer.

4

6. (continued)

MARKS

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The components of the speaker casing are shown above.

The fixing screws were imported from a CAD library.

(c) Explain why this type of component would be included in a CAD library.

2



6. (continued)

MARKS

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The two component parts of the portable speaker casing need to be assembled within the CAD software.

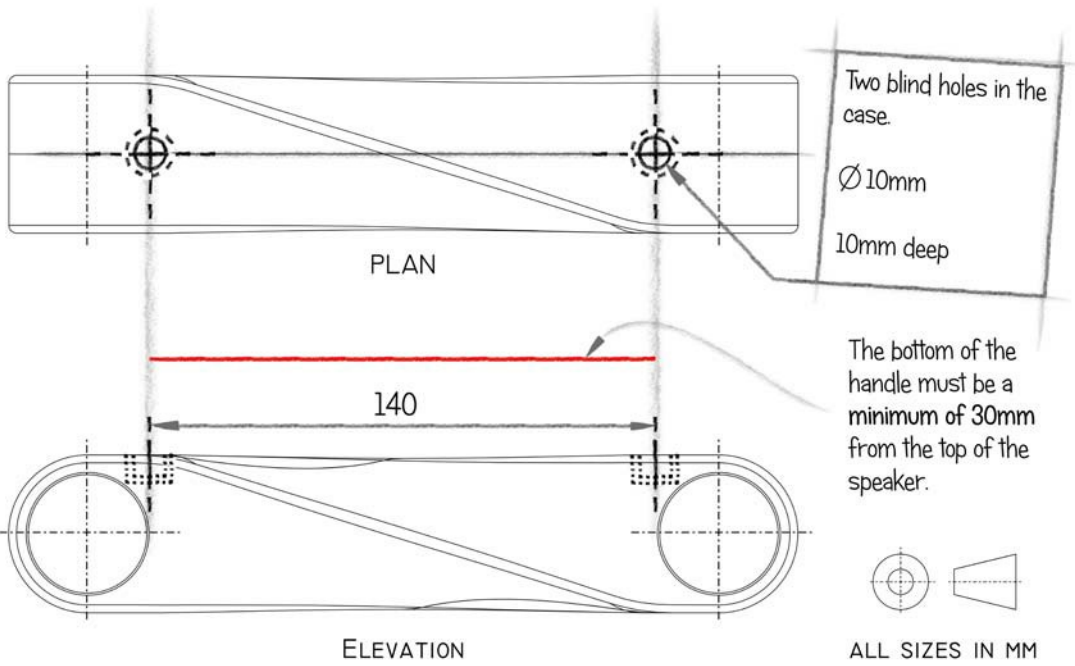
- (d) Outline the 3D modelling techniques used to fully constrain the two component parts. You may use annotated sketches to support your answer if you wish.

2



6. (continued)

MARKS DO NOT WRITE IN THIS MARGIN

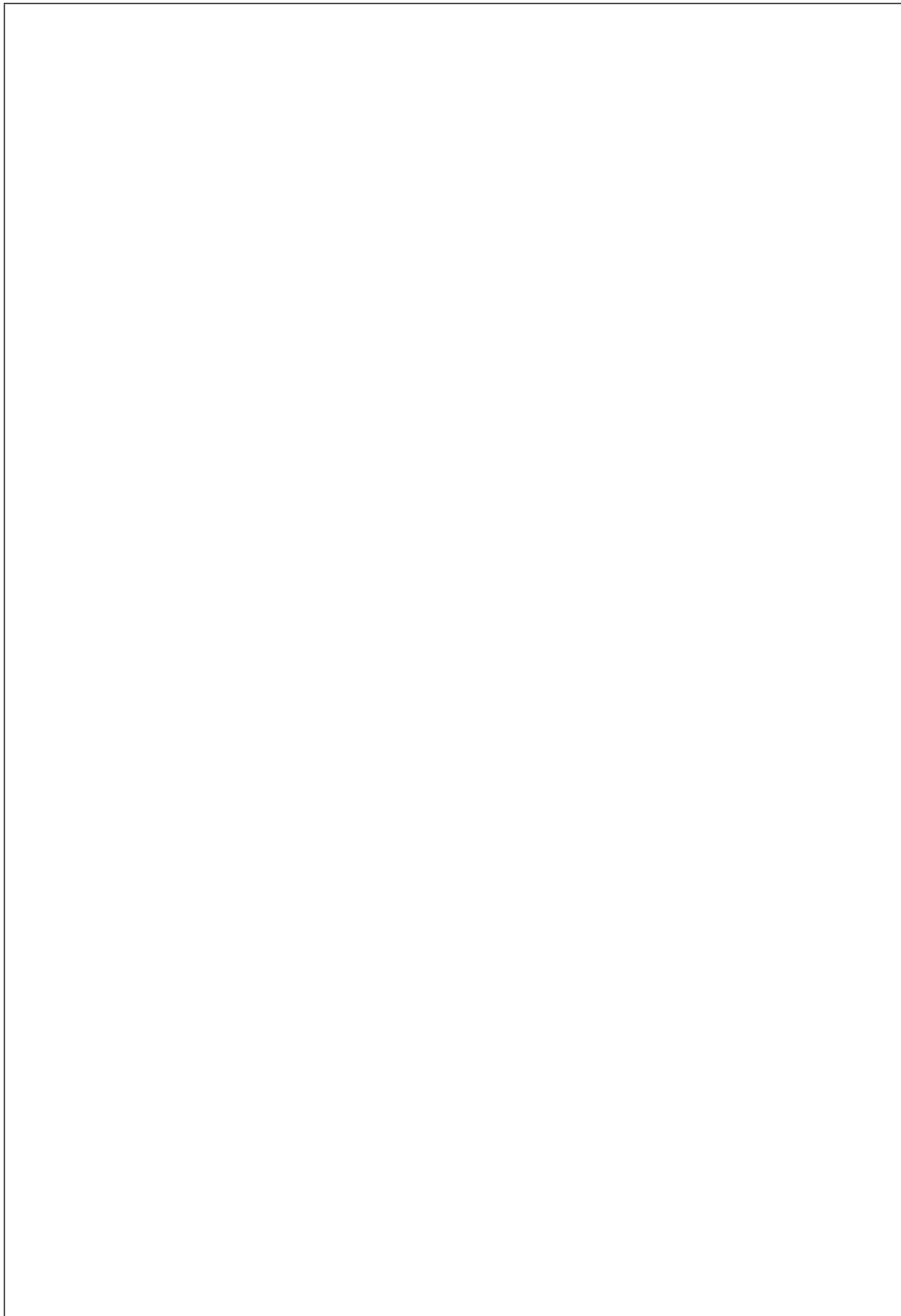


## 6. (continued)

The portable speaker casing design has been modified to allow a simple handle to be attached. These modifications have been sketched on the production drawings and shown on the 3D model on the left.

- (e) Produce a modelling plan which could be used to create a 3D CAD model of a simple handle to fit the blind holes in the casing. The handle will be glued into the holes. You can sketch, annotate, and/or use text in your answer.

4



7. Use the three layouts in the **Question 6 supplement** provided to answer this question.

Three promotional layouts for “One Stop Kit Shop”, a cycling accessories chain, are shown.

The layouts are aimed at three different target markets and will be displayed in three different magazines.

Target market layout 1: (45–65 years) male and female, leisure cycling, working and retired singles and couples, grown-up families, TV influences: gardening and travel shows

Target market layout 2: (25–45 years) male and female, working, keen cyclists, adventure cycling, young families or no family commitments, TV influences: sport and Top Gear

Target market layout 3: (15–25 years) predominantly male, serious adventure and mountain biking, single, independent, TV influences: reality shows, indie and grunge music

The graphic designer has used a range of design elements and principles in each of the three layouts to appeal to the different target markets.

(a) Explain why the styles of typeface used in layout 1 will appeal to its target market. 2

(b) Explain how the use of shape enhances layout 2. 2

## 7. (continued)

In layout 2, three lines, two blue and one orange, are used.

- (c) Explain how each of these lines improves layout 2. Each of your explanations should be different.

3

Advancing and receding colours have been used in each of the layouts.

- (d) Select one of the layouts. Identify an advancing colour used in it, and describe the impact this colour has on the layout.

2

In layout \_\_\_\_\_ the advancing colour is \_\_\_\_\_.

The effect this colour has on the layout is:

Different forms of balance have been used in the layouts. In layout 1 the cyclists are placed off-centre, whilst in layout 2 the cyclist is placed in the centre of the layout.

- (e) (i) Explain one challenge that placing a main item in the centre of a layout gives the graphic designer.

1



**MARKS**

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7. (e) (continued)

- (ii) Explain the benefit of placing a main item off-centre in a layout (other than your answer to 6(e)(i)).

1

- (f) Explain three different ways in which the graphic designer has used design elements and principles in layout 3 to appeal to its target market.

3

8. Use “The Colour and the Shape” articles (layout A and layout B) from the Question 7 supplement provided to answer this question.

A graphic designer has created a magazine double-page spread for a home furnishing publication as shown in layout A. After development, the graphic designer enhanced the layout and produced a pre-press copy, layout B.

(a) Explain **two** reasons for using **headers** and **footers** in a multi-page document. 2

(b) Examine the feature shown below.

(i) State the name of this feature which is in each corner of layout B. 1

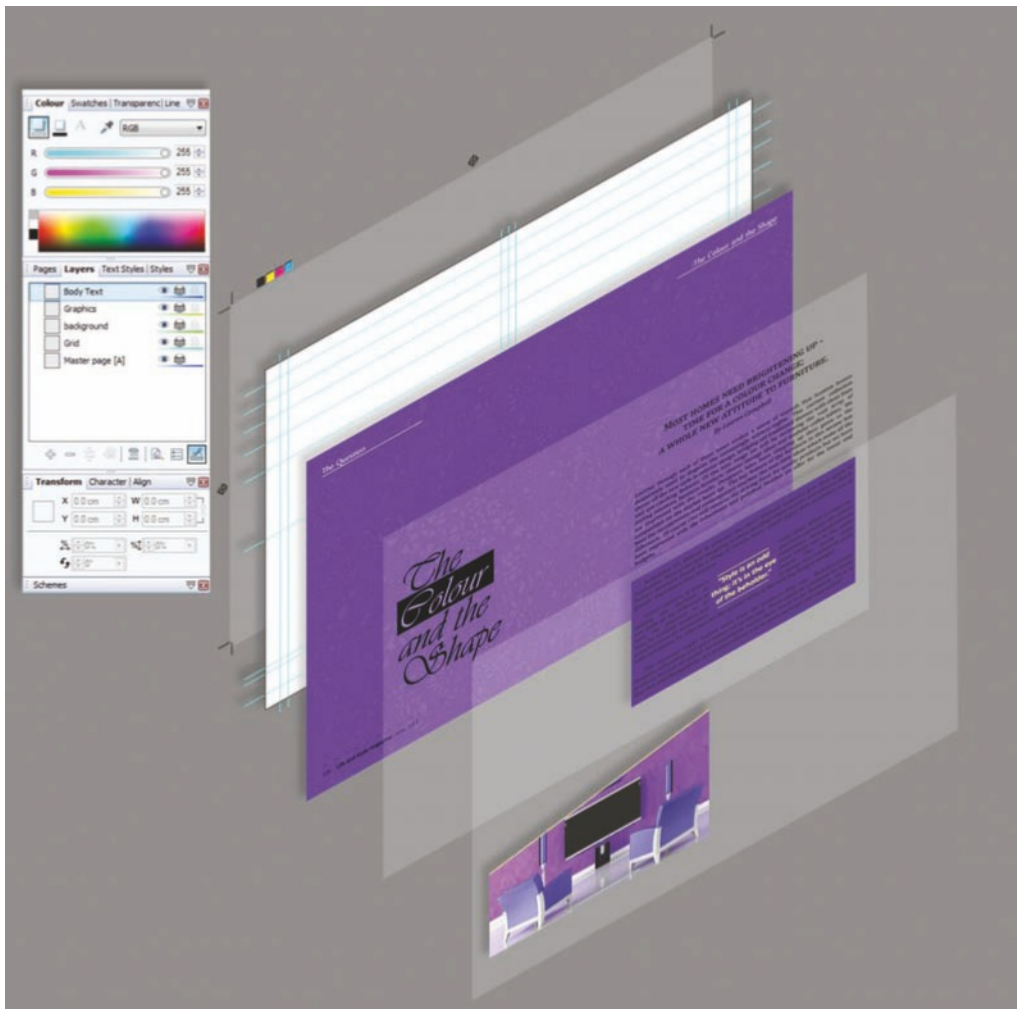


(ii) Explain the purpose of this feature. 1

(iii) Explain why the graphic designer used bleed in layout B. 1

8. (continued)

Examine the layering tree shown below.



- (c) Describe layering as it is used in layout B in terms of the function and the benefits of layering for the graphic designer.

2

## 8. (continued)

Examine **both** layout A and layout B.

Three DTP improvements have been made from layout A to layout B.

(d) Identify what these improvements are and explain their impact.

(i) Layout improvement 1 is:

2

and the impact is:

(ii) Layout improvement 2 is:

2

and the impact is:

(iii) Layout improvement 3 is:

2

and the impact is:

[END OF SPECIMEN QUESTION PAPER]

Layout 1



Layout 2



Layout 3



Layout A

The Question :The Colour and the Shape

# The Colour and the Shape

**MOST HOMES NEED BRIGHTENING UP - TIME FOR A COLOUR CHANGE; A WHOLE NEW ATTITUDE TO FURNITURE.**  
*By Lauren Campbell*

LOFTING through each of these tones evokes a sense of warmth that Scottish homes desperately need to disguise the increasingly wintery nights. This current collection shows off the new style in interior design, bridging old traditional themes with clean lines and eye-catching features. Of the new range we will be reviewing the vast array of seating solutions, business furniture, clever storage ideas and modular coffee tables. We are impressed with the results. Designers have been stepping up their game as the competition on the market heats up. The key feature of the furniture in this review has been the inventiveness and contemporary touches; the neat little ideas which make all the difference. Of course cost still remains the driving force for quality products but we have been impressed with the robustness and polished finishes on offer for the lower end budgets.

Sometimes it's difficult to pinpoint the exact moment someone gets that spark of inspiration. Most of the time designing is about deciding where to start and when to finish. Today's furniture should be a thing of beauty. Some would argue that aesthetics are of greater importance than function.

Colour choice is, at times a risky affair. When it comes to making the decision to purchase a product, the colour can make all the difference to consumers. Autumnal colours have the potential to fit most tastes and at the same time, be instantly modern and unique.

**"Style is an odd thing; it's in the eye of the beholder."**

The consumer might require more from the products they use. Multifunctional, modular, collapsibles and space savers are on the rise. There could be a demand for these products because of smaller accommodation means there needs to be flexibility. Or, is it that that interchangeability of a product allows it to be more personal and interactive?



106 Life and Style magazine | May 2013 Life and Style magazine | May 2013 107

Layout B pre-press copy

The Question :The Colour and the Shape

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**"Style is an odd thing; it's in the eye of the beholder."**

The recent (and popular) trend for minimalism in design has reached its peak with consumers. So, what next for the stylists? What is the next big thing in design?

The consumer might require more from the product they use. Multifunctional, modular, collapsibles and space savers are on the rise. There could be a demand for these products because of smaller accommodation means there needs to be flexibility. Or, is it that that interchangeability of a product allows it to be more personal and interactive?



106 Life and Style magazine | May 2013 Life and Style magazine | May 2013 107



ADDITIONAL SPACE FOR ANSWERS

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