

4 The first issue of a golf club newsletter produced on a DTP package is shown below. Marks

(a) State the desktop publishing **terms** for each of the numbered elements.

(i) ..... (ii) ..... 2

(iii) ..... (iv) ..... 2

(v) ..... (vi) ..... 2

(b) State the term for the effect used on the text at X "New Course Opening".  
..... 1

(c) Add a footer showing "issue1" to the newsletter. 1

(d) State the page orientation of the newsletter.  
..... 1

(9)

1 A supplementary page is included at the end of Section A for use if extra space is required. Marks

An engineer's office uses a range of *Preliminary and Production* graphics. Marks

Explain the purpose of each **type** of graphic and give **one** example of each.

*Preliminary* Purpose ..... 1

..... 1

Example ..... 1

*Production* Purpose ..... 1

..... 1

Example ..... 1

(4)

5 Marks

(a) A drawing contains both a centre line and a visible outline located in the same position. State, according to British Standards, which would be given priority and drawn.  
..... 1

(b) The following line descriptions are taken from British Standards. State the applications for each.

Line Descriptions	Applications
Dashed thin line	.....
Chain thin double dashed	.....
Continuous thin straight with zigzags	.....
Continuous thin	.....

4  
(5)

Name:

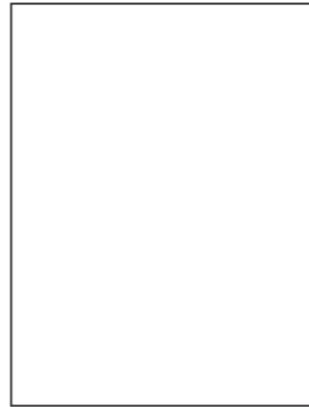


3

There are three main types of balance used in DTP publications.

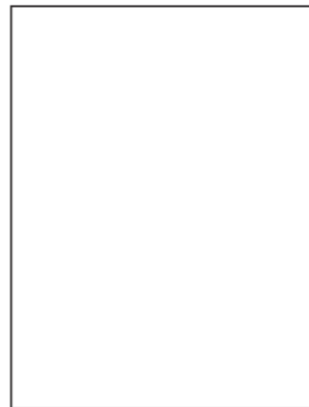
In the space below, state and sketch **two** DTP balances.

(a) Balance: .....



1

(b) Balance: .....



1

Total (2)

5

An advertising leaflet for the game of handball, ready to be sent to the printers, is shown below.

Correctly identify the features arrowed in the leaflet.

- (i)
- (ii)
- (iii)
- (iv)

4

Edge of paper

**HANDBALL** is an extremely fast, 7 a-side game played indoors by two teams. It has similarities with both basketball and football, is fast moving and requires strength, speed and agility.

A handball team is comprised of seven players, who work together to move the ball up the court and attempt to score a goal.

The fast pace of the game results in many shots being taken, and teams can often score over 20 goals each.

Like basketball, players rely on feints, body swerves, and huge leaps in the air to pass, control the ball and shoot.

Unlike basketball, physical contact is allowed and legal body-checks can sometimes see players crashing to the ground!

BRITISH HANDBALL

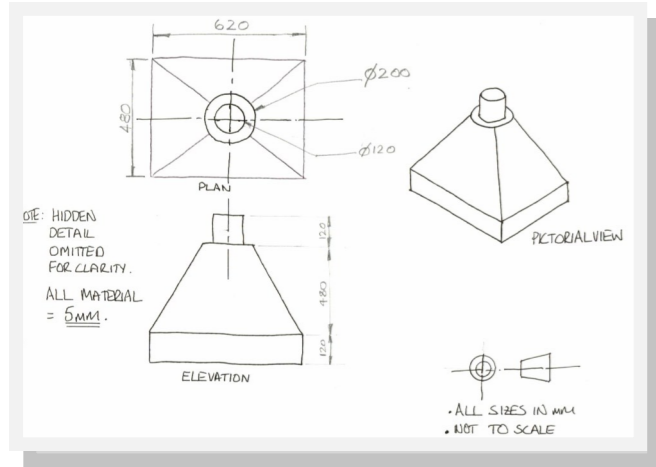
**Play Handball**

[X033/13/01]

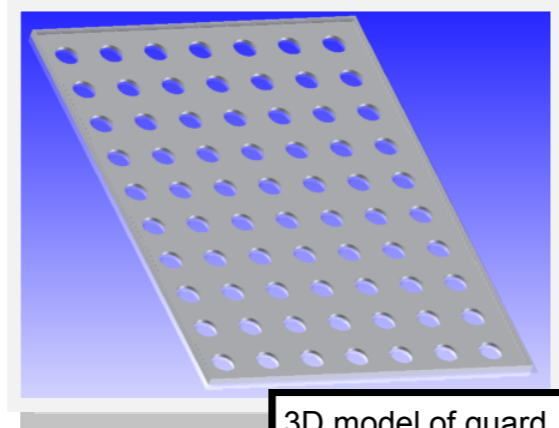
Total (4)



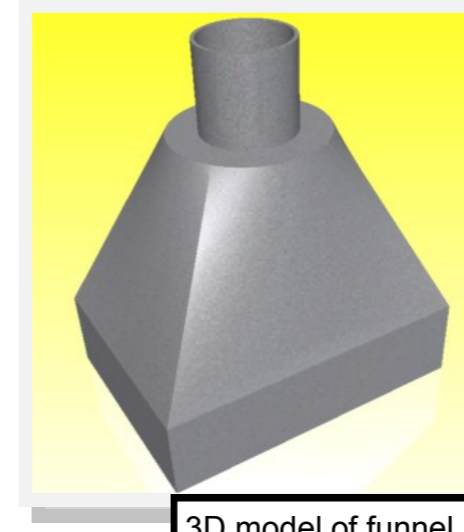
The sketches shown below were used by a CAD technician to create a 3D model a chemical fume extraction funnel for use in laboratories.



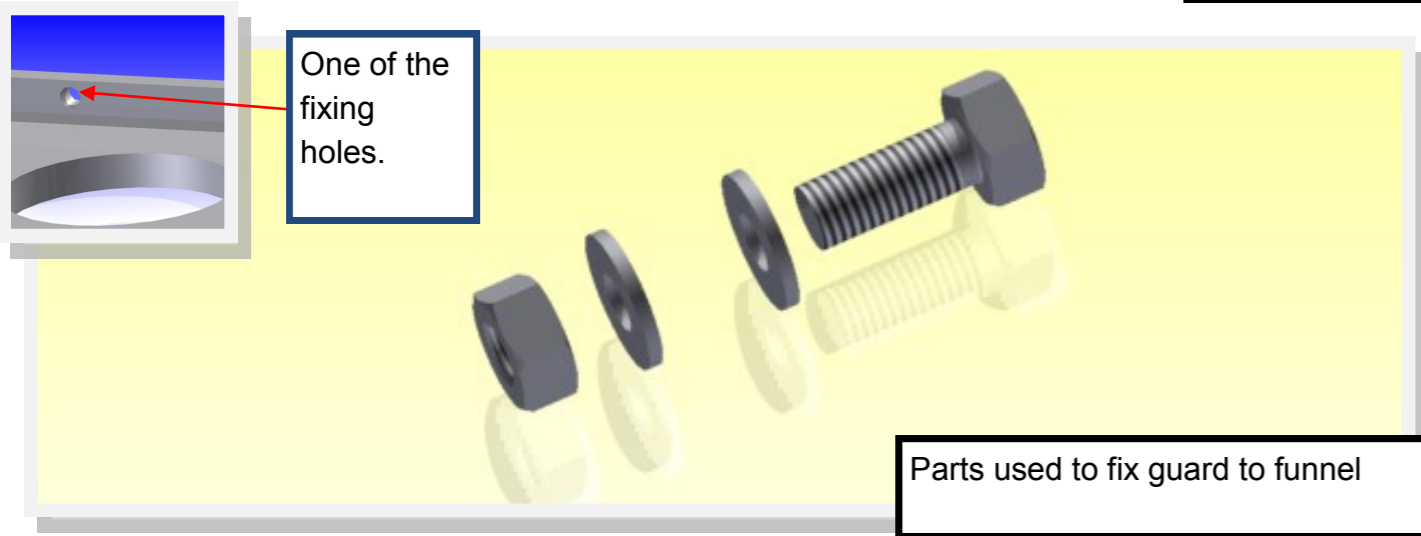
(b) i) The funnel requires a safety guard consisting of a series of holes to be fitted inside it.



3D model of guard



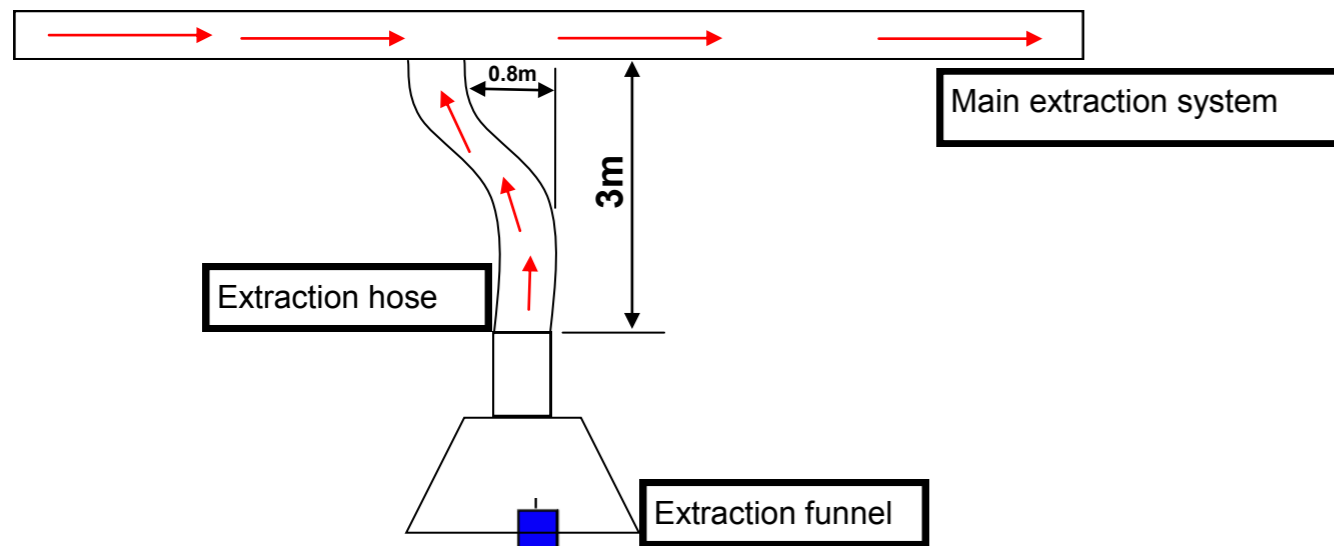
3D model of funnel



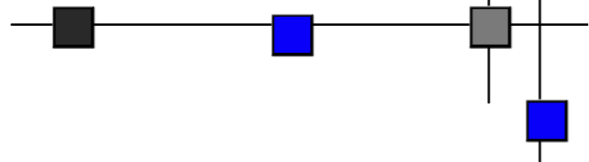
Parts used to fix guard to funnel

(iv) Explain how the guard would be joined to the funnel within the 3D model assembly using the bolts, nuts and washers from the CAD library. Your answer should describe how the components are constrained within the assembly. Your answer should be supported by annotated sketches. **NOTE** : You only need to mention **one** of the fixing holes. **3**

(c) The CAD technician is required to design a hose to lead from the funnel to the main system, based on the dimensions shown below:



Explain how a 3D model of the hose may be produced. You should refer to the dimensions in the diagram above and the dimensions of the funnel. Support your answer with annotated sketches.



....continue overleaf....



← SIDE ONE

1 Using the "Autodesk Create" leaflet.  
Identify three Design Principles that are used in the leaflet, and describe how they are used.

Design Principle 1 .....

Description:

2

Design Principle 2 .....

Description:

2

Design Principle 3 .....

Description:

2

Total (6)



→ SIDE TWO

2 Section A  
Using the "Autodesk Create" leaflet.  
Identify three Design Elements that are used in the leaflet, and describe how they are used.

Design Element 1 .....

Description:

2

Design Element 2 .....

Description:

2

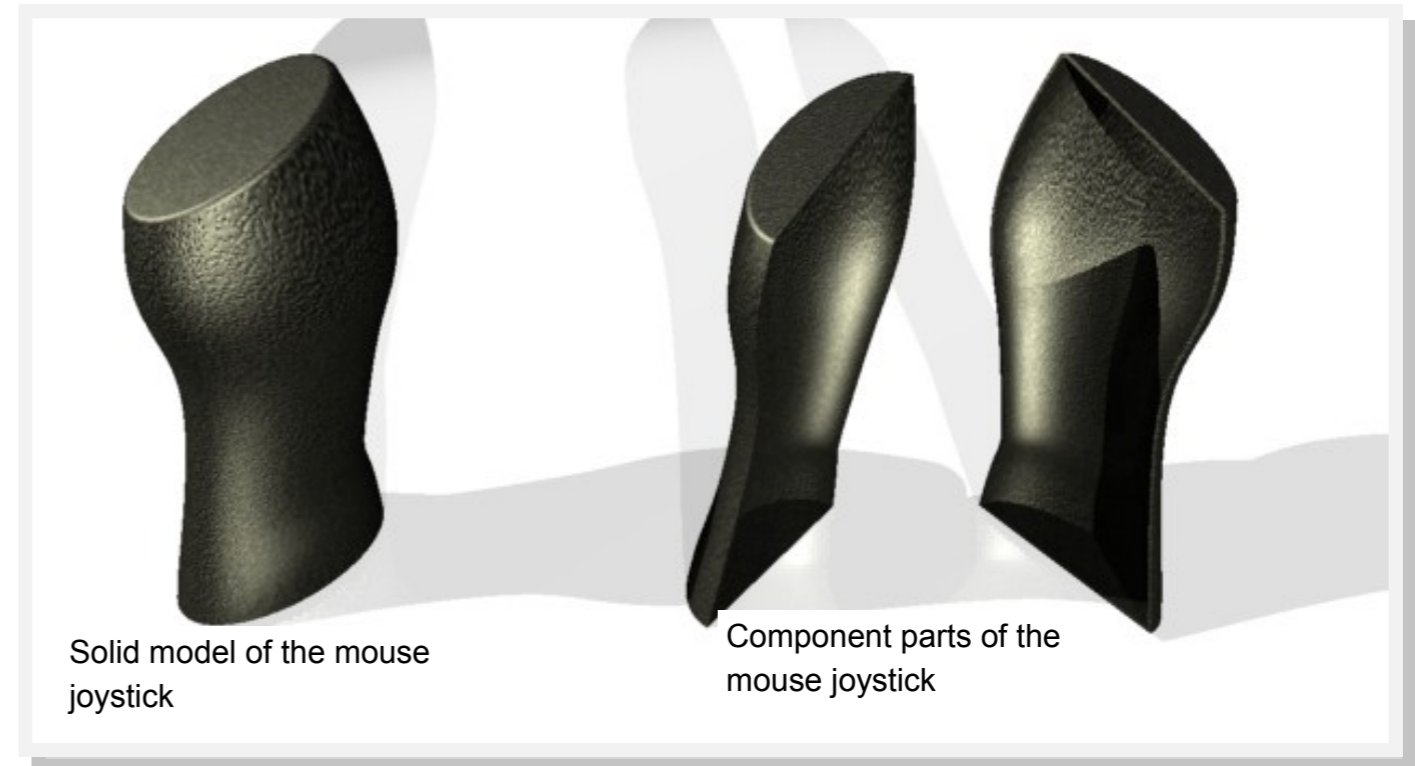
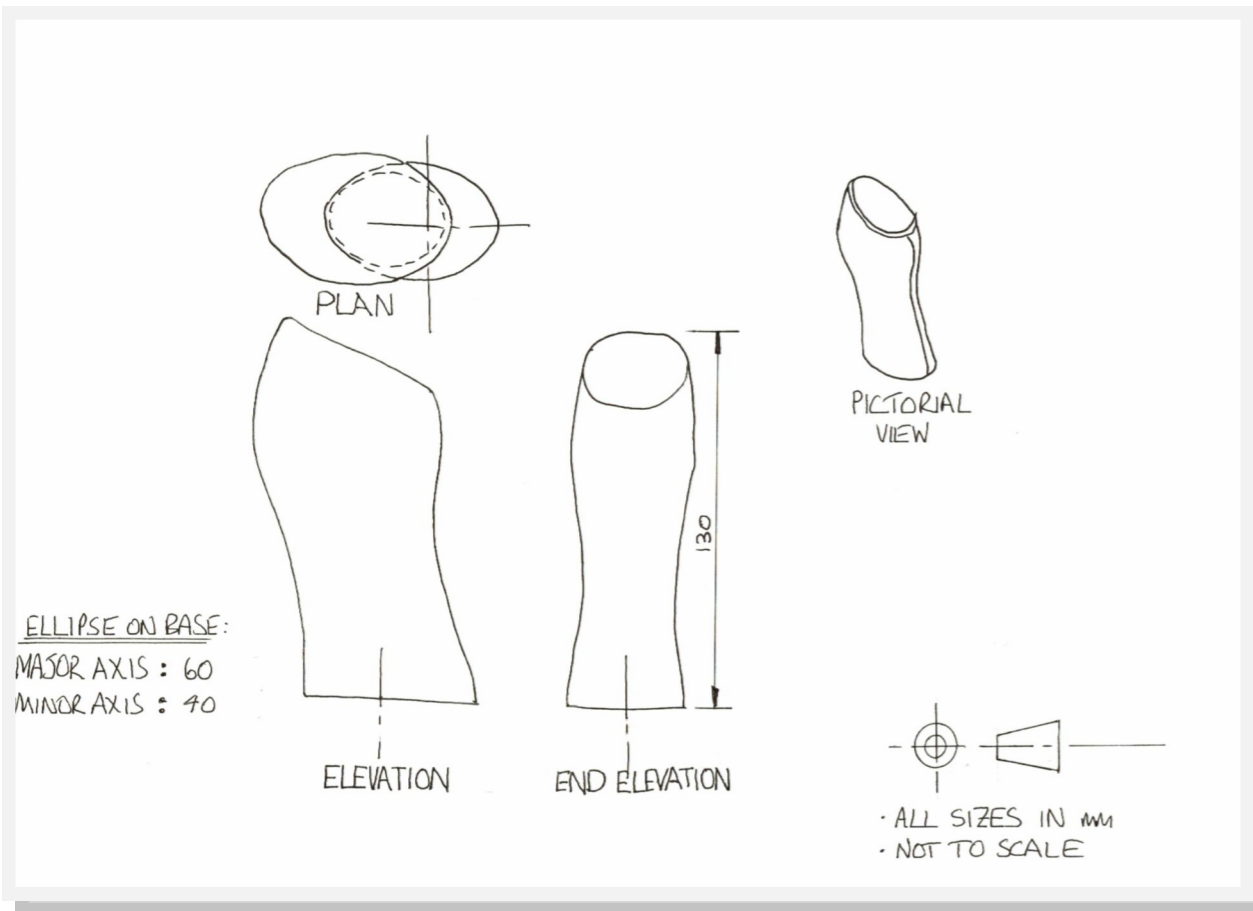
Design Element 3 .....

Description:

2

Total (6)

The sketches shown below were used by a CAD technician to create a 3D model of a computer joystick mouse. The 3D model will be used to make production drawings and a promotional illustration.

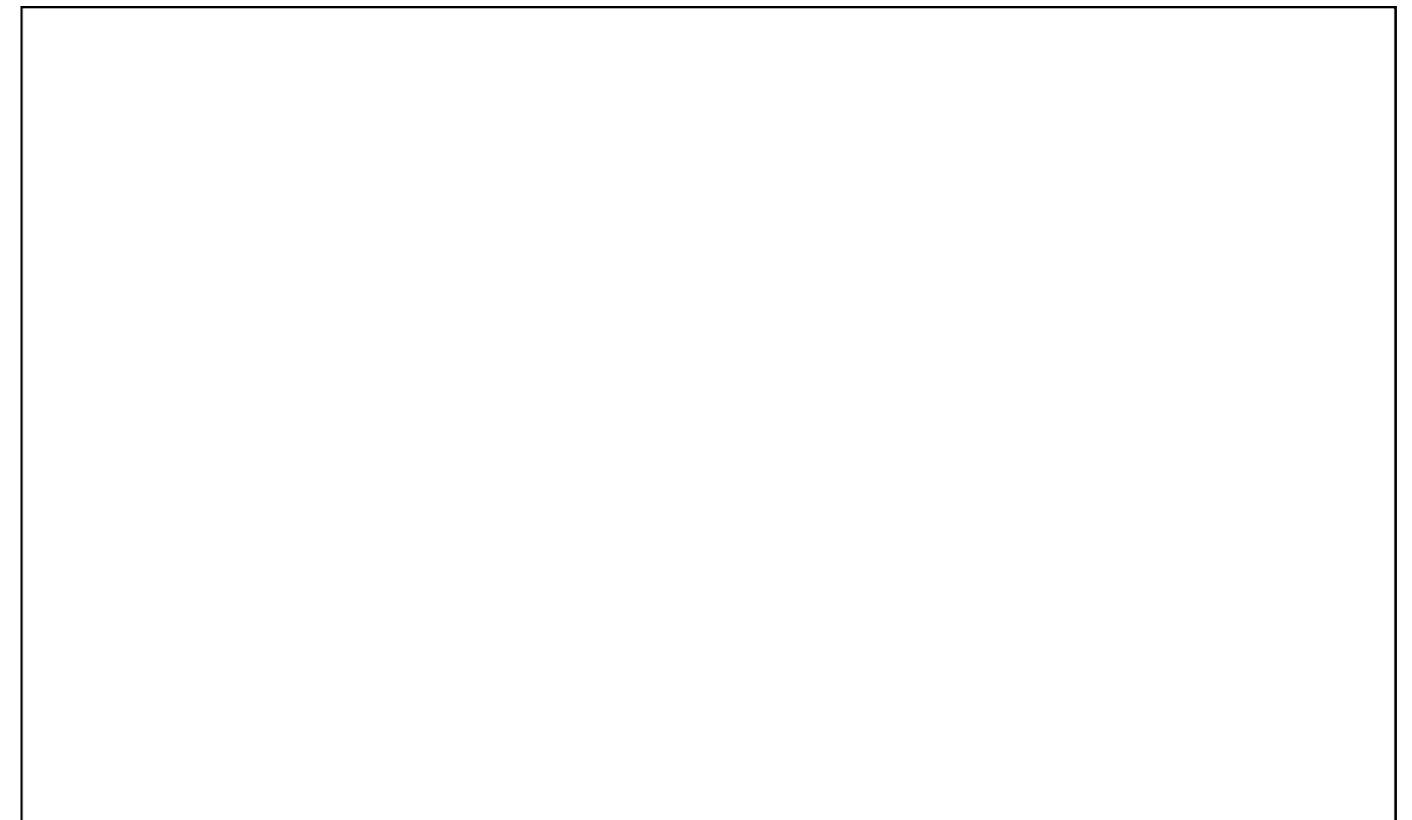
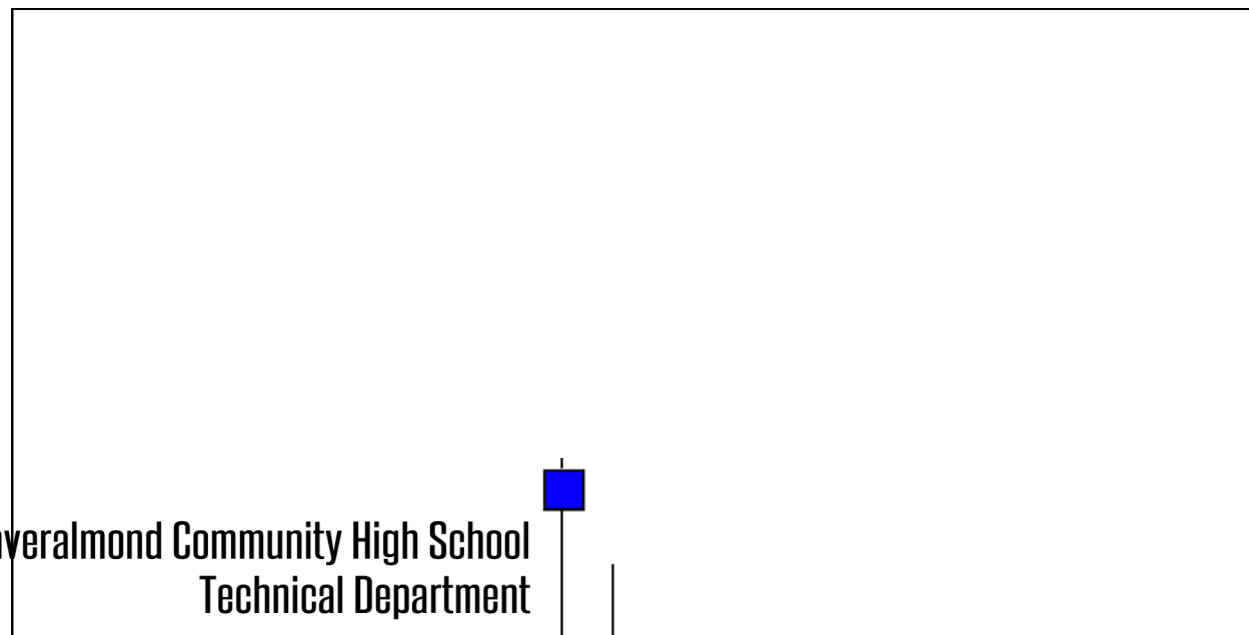


A solid model of the mouse joystick casing and the two components generated from it are shown above.

(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

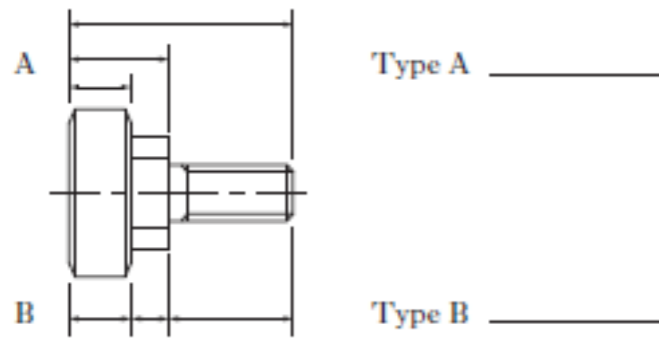
(a) Describe how this first stage of the joystick mouse 3D model would be produced. Support your answer with annotated sketches.



2.

**Section A**

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



2

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

.....

.....

.....

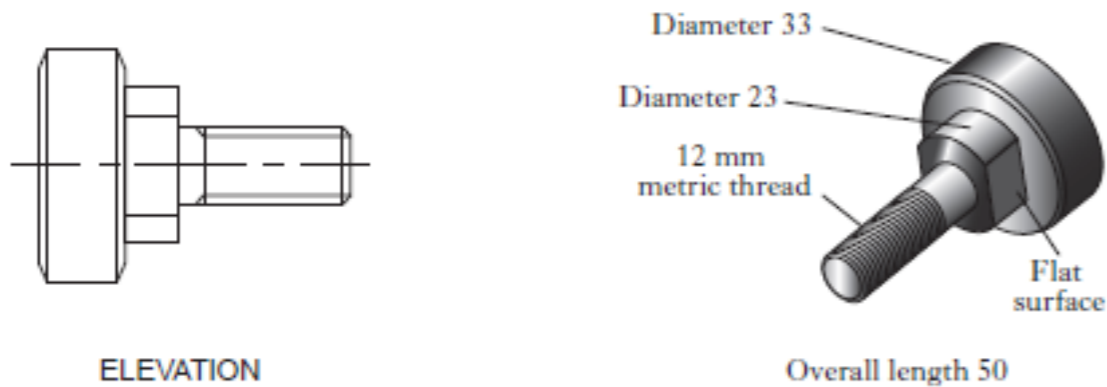
1

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

- (i) the 4 dimensions shown on the pictorial view;
- (ii) the flat surface.

4

1



(8)

3.

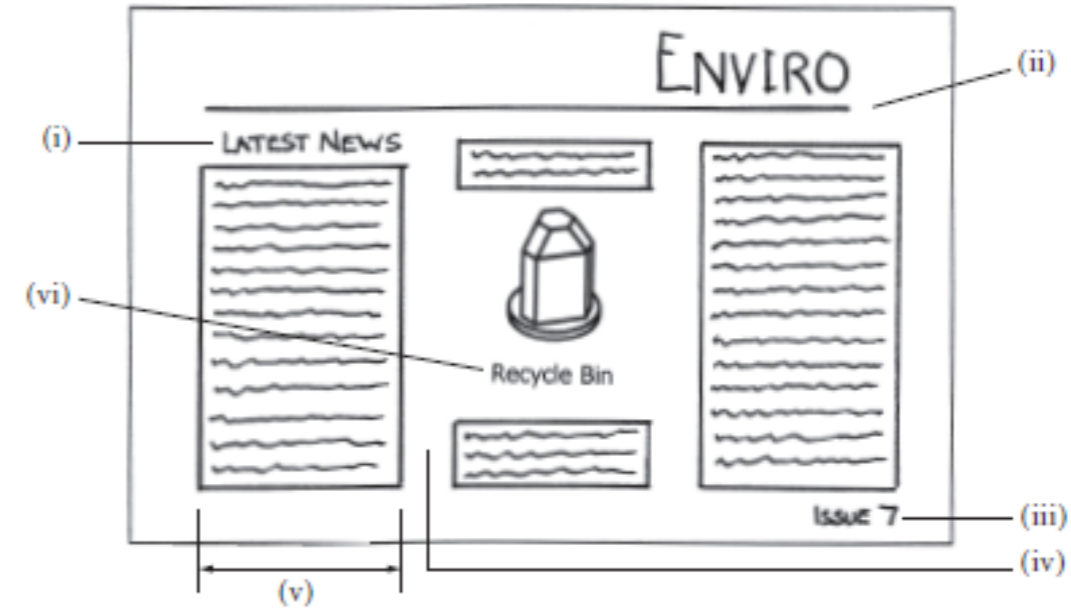
(a) There are three stages in planning a DTP document prior to the production of the final electronic version. Research is the first stage. Marks

State **two** further stages in planning a DTP document.

Stage .....

Stage .....

2



Part of the planning stage is shown above.

(b) State the page orientation used in the document above.

..... 1

(c) State the DTP term for the deliberately created clear area to the left of the word ENVIRO.

..... 1

(d) State the DTP term for each of the features (i) to (vi).

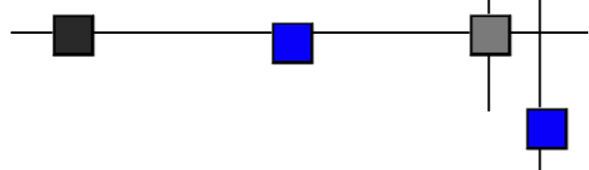
(i) ..... (ii) .....

(iii) ..... (iv) .....

(v) ..... (vi) .....

6

(10)



Leaflet for use with Questions 1 and 2

**Something for All Seasons**  
Seabirds nesting, gannets diving, dolphins leaping, chicks hatching – no two days are ever the same at the Scottish Seabird Centre!

**Spring**  
The seabirds arrive on the islands and courtship begins. Gannets, gannets, razorbills, terns, kittiwakes all arrive, with the puffins always last to appear! The first eggs are spotted in late March. Spring and summer is the best time to look out for dolphins and whales.

**Summer**  
One of the highlights of the year when the seabirds are rearing chicks. There are over 150,000 gannets on the Bass Rock and thousands of puffins on the islands. Check out our SOS Puffin campaign at [www.seabird.org](http://www.seabird.org) to save the puffins on the islands.

**Autumn**  
The gannets are feeding chicks, many of the large white fluffy slugs. In late autumn, the first winter visitors arrive along the shore and overhead the skies are filled with gulls.

**Winter**  
As the last gannets leave, the grey seals arrive to give birth to their fluffy white pups. A wonderful winter spectacle. Lots of winter waders, ducks and geese can be seen along the shore and overhead.

**Opening Times**  
Open All Year – except Christmas Day  
April – September  
Monday – Sunday 10.00am – 4.00pm  
February, March and October  
Monday – Friday 10.00am – 3.00pm  
Saturday – Sunday 10.00am – 3.00pm  
November – January  
Monday – Friday 10.00am – 4.00pm  
Saturday – Sunday 10.00am – 3.00pm  
Last admission to Discovery Centre and Café 30 minutes before closing.  
Save time and buy your tickets online at [www.seabird.org](http://www.seabird.org)

**Easy to Get To!**  
**BY TRAIN**  
The quickest and most environmentally friendly way to travel. Great value package includes return train ticket, plus a day pass for the Centre.  
Tel: 06457 552533 or [www.firstgroup.com/firstrail](http://www.firstgroup.com/firstrail)  
**BY BUS**  
Regular bus services operate from Edinburgh (service no. 1047X) via First Bus (075 862200), from Inverleith (0121 rail by First Bus) and from Dundee (01307 rail by First Coachline 01304 865200).  
**BY CAR**  
Only 25 miles! 40mins from the centre of Edinburgh and less than an hour from the English border. The Scottish Seabird Centre is signposted from the A1, north and south. Parking will be returned with your admission ticket.  
Full disabled access, facilities and parking, children's facilities and baby changing. Guide Dogs welcome.

**Take Home a Toy Puffin!**  
when you visit our Discovery Centre  
The puffin is a very hardy bird.  
Please complete the following to receive your free puffin and/or £1 off our Guide Book.  
Just write your home town  
And tell us where you picked up your leaflet

**Get Closer!**  
At the award-winning Scottish Seabird Centre  
PICK UP YOUR FREE PUFFIN!  
See inside for details. Plus £1 OFF our Guide Book.

← SIDE ONE

1

Using the “Scottish Seabird Centre – Get Closer” leaflet.

Identify **three Design Principles** that are used in the leaflet, and describe how they are used.

Design Principle 1 .....

Description:

2

Design Principle 2 .....

Description:

Design Principle 3 .....

Description:

2

2

Total (6)

SIDE TWO →

**A Fantastic Day Out!**  
There's nowhere else like it in the world! A world leader in wildlife viewing and winner of more than 20 major awards...  
[www.seabird.org](http://www.seabird.org)

From the Seabird Centre's stunning location, overlooking the sea, you'll experience a close encounter with nature to remember. An all weather attraction. Descend into the exciting Discovery Centre with amazing live Cameras, Wildlife Cinema, Kids' Zone, saltwater Aquarium, Environment Zone and Migration Flyway. Open all year, there is also a Gift Shop, Café with open decking, boat trips to the islands... plus a packed programme of events!

**Relax and Unwind**  
Enjoy delicious food and drink all day in our Licensed Café with open decking and panoramic views over the sea and beach. Home-baking and home-made specials. Food and drink served all day.

**Retail Therapy**  
You're guaranteed to find something different in our attractive Gift Shop. Specialty gifts, local arts and crafts, wildlife and green souvenirs. Postcards and prints in our Gallery.

**Fantastic Value!**  
Become a member and enjoy free entry all year. Special events and offers, discount in our Shop and Café and boat trips. Join online at [www.seabird.org](http://www.seabird.org) or upgrade to membership on the day you visit and we'll refund your admission. As an educational and conservation charity, we depend on our members to survive.

**Seabird Safaris to the Islands!**  
Get on board our Seabird Safari Boat Trips around the islands and find out about our SOS Puffin Project to save the puffins. For the experience of a lifetime, you can book our photographic trips, landing on the Bass Rock. Call 01603 880302 or visit [www.seabird.org](http://www.seabird.org) for more information.

**A Journey of Discovery**

Section A

2

Using the “Scottish Seabird Centre – Get Closer” leaflet.

Identify **three Design Elements** that are used in the leaflet, and describe how they are used.

Design Element 1 .....

Description:

Design Element 2 .....

Description:

Design Element 3 .....

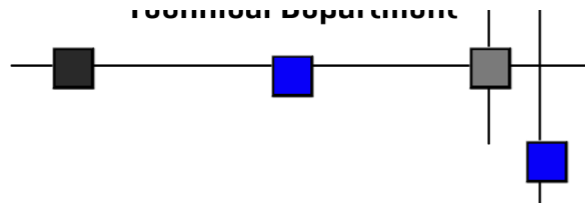
Description:

2

Total (6)

Inv

Technical Department



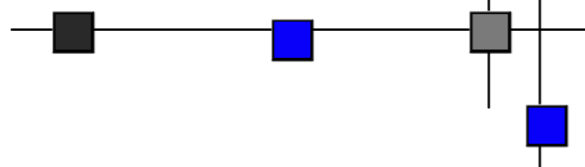
2

1.

Describe, using sketches if required, the following desk top publishing **terms**.

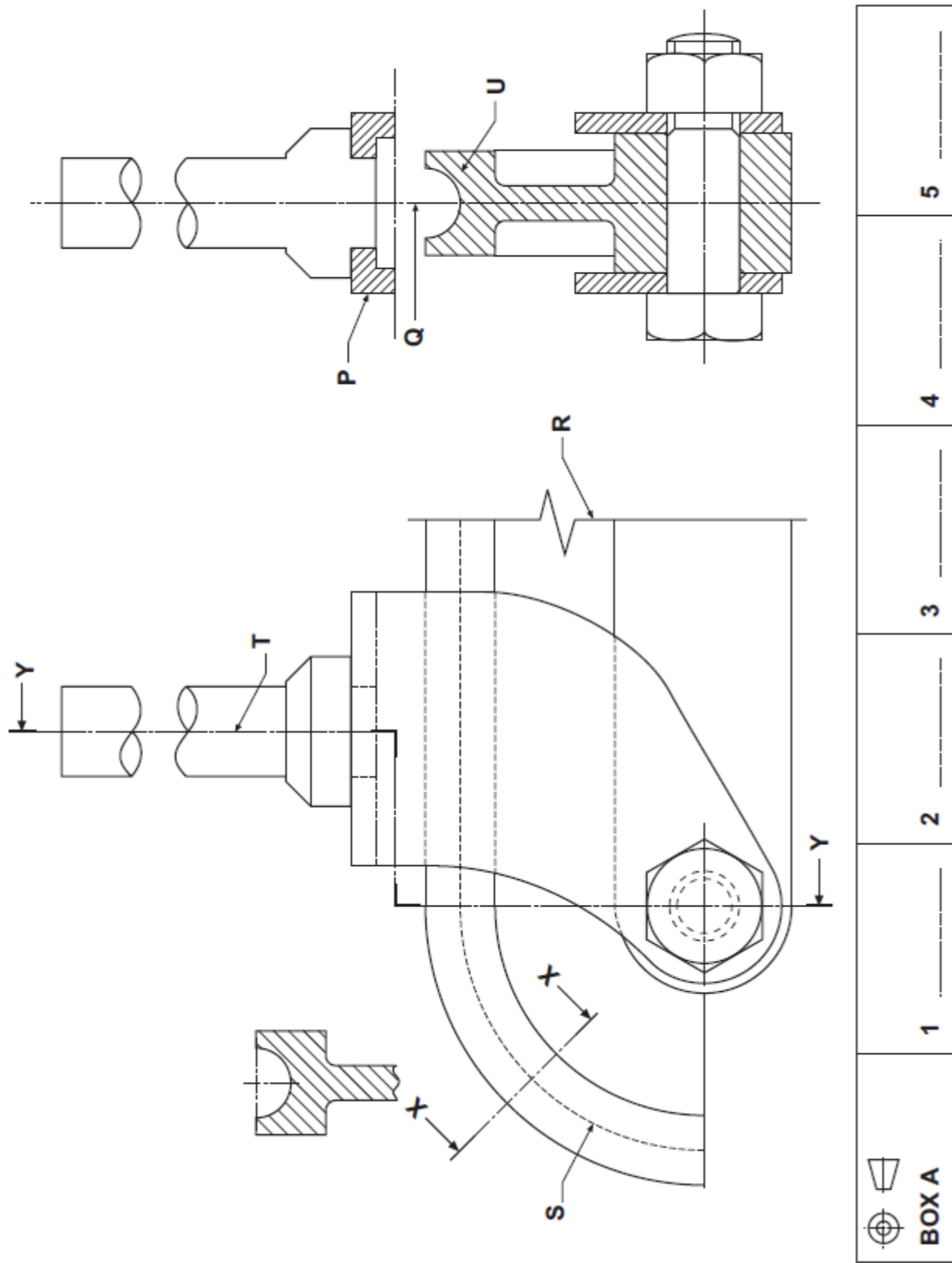
Page orientation .....	1
.....	
.....	
.....	
Rule .....	1
.....	
.....	
.....	
Caption .....	1
.....	
.....	
.....	
Gutter .....	1
.....	
.....	
.....	
Reverse .....	1
.....	
.....	
.....	
Header .....	1
.....	
.....	
.....	
Margin .....	1
.....	
.....	

(a) A range of drawing types are used in industry within the categories <i>Preliminary</i> , <i>Production</i> and <i>Promotional</i> .	
(i) State the category that an orthographic drawing, showing dimensions and tolerances would be in.	
Category .....	1
(ii) State the purpose of this type of drawing.	
Purpose .....	1
(b) State a type of <i>Promotional</i> graphic commonly used in marketing.	
Graphic .....	1
	(3) <input type="text"/>
(a) Orthographic views created in a CAD package are drawn in <b>2D</b> . State <b>two types</b> of views that would be drawn in <b>2½ D</b> .	
View 1 .....	1
View 2 .....	1
(b) State the computer hardware that allows:	
(i) drawings and text to be sent accurately to another computer;	
Hardware .....	1
(ii) existing photographs to be captured and inserted into a desk top published document;	
Hardware .....	1
(iii) production of a hard copy of a word processed document.	
Hardware .....	1
	(5) <input type="text"/>





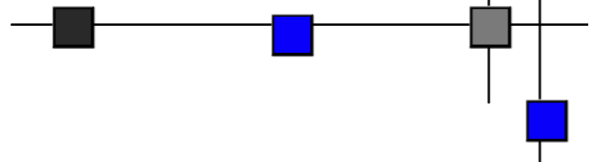
3.



The engineering drawing, including the title block, shown opposite is drawn to **British Standards**. Marks

- (a) State the British Standard symbol shown in **Box A**. 1
- .....
- (b) State the further five items of information that should be included within the given title box to conform to **British Standards**.
- 1 ..... 2 .....
- 3 ..... 4 .....
- 5 ..... 5
- (c) State the **British Standard** type of sectional view created by:
- X-X** ..... 1
- Y-Y** ..... 1
- (d) The incomplete list below gives **either** the Description **or** the Application of the British Standard line **types** indicated on the drawing shown on the opposite page. State the Description **or** the Application of each line **type** in order to complete the list. A completed example is given for **P**.
- P** Description: *Thick, continuous*  
Application: *Visible edges and outlines*
- Q** Description: ..... 1  
Application: *Centre lines, lines of symmetry*
- R** Description: *Continuous thin straight with zigzags*  
Application: ..... 1
- S** Description: ..... 1  
Application: *Hidden outlines and edges*
- T** Description: ..... 1  
Application: *Cutting planes*
- U** Description: *Continuous thin*  
Application: ..... 1

(13)



4.

what's on...

Your monthly guide to the UK's premier entertainment venue

# Events at The O<sub>2</sub>

## PARTY LIKE A V.I.P. IN THE O<sub>2</sub>'S BLUEROOM!

If you're heading to a show at The O<sub>2</sub>, make a proper night of it by taking advantage of some of the other things we have on offer, like the blueroom bar...

The sumptuous blueroom bar is only open during arena events and is exclusively for the use of a limited number of O<sub>2</sub> customers per night. If you text BLUEROOM to 60202 while you're at The O<sub>2</sub>, you will be one of the lucky 200 people at every show to receive an electronic entry ticket via text. Don't worry if your pals aren't on O<sub>2</sub>, as everyone who bags a blueroom ticket can bring three friends with them!

The bar is filled with comfy sofas, chilled-out lighting, a jukebox with thousands of tunes and screens showing an ever-changing array of wallpapers. Got a picture you want to share? Text it to 60202 and we'll screen it on the walls. Plus, every night is different in the blueroom as its theme changes to suit what's happening in the O<sub>2</sub> that night, so you can enjoy a total event experience! (See Bar Themes for details.)

The blueroom bar is just one of the exciting choices for O<sub>2</sub> customers when you visit The O<sub>2</sub>. Make sure that you text BLUEROOM to 60202 and don't miss out!



**BOOK NOW**  
THE BLUEROOM  
The O<sub>2</sub>  
Peninsula Square,  
London, SE10 0DX  
T: 0844 856 0202  
theo2.co.uk/  
inside/book-now



## PRIORITY TICKETS

For a full list of what's on at The O<sub>2</sub> text **INFO** to 60202. As an O<sub>2</sub> customer you can get priority tickets to The O<sub>2</sub> - visit [o2.co.uk/theo2](http://o2.co.uk/theo2) to register

## LAST CHANCE TO BOOK FOR...

**Henry Rollins**  
12 August  
From hardcore punk to acting and writing, Rollins has done it all. Catch his spoken word show at indigO<sub>2</sub>.

**THIS MONTH**  
**Mysteries of Tutankhamun Revealed**  
19 August  
Egypt's chief archaeologist Zahi Hawass shares the latest exciting discoveries at this lecture in indigO<sub>2</sub>.



**NEXT MONTH**  
**GB Basketball**  
6 September  
Now is the time to book for an evening of intense basketball action as Great Britain takes on the Czech Republic at The O<sub>2</sub>. An absolute must for fans of this thrill-a-minute sport.

**Stevie Wonder**  
11, 12 & 30 September, 1 October  
The musical icon that is Stevie Wonder is touring Europe for the first time in nearly ten years. Don't miss this rare chance to see a genuine legend in action, playing all of his greatest hits at The O<sub>2</sub>.

**COMING SOON**  
**James Blunt**  
14 October  
This final night of James Blunt's All The Lost Souls UK tour is guaranteed to be one to remember.

**BOOK NOW FOR**  
Canadian rockers  
**Nickelback**, eighties  
icon **Howard Jones**,  
ska faves **Madness**,  
and the timeless **Tina Turner**. To book go to  
[theo2.co.uk/inside/book-now](http://theo2.co.uk/inside/book-now)

study the "Events at The O<sub>2</sub>" leaflet.

identify and describe **three Design Elements** that make an impact on this page

Design Element 1 .....

Description:

Design Element 2 .....

Description:

Design Element 3 .....

Description:

Please refer to the "Events at The O<sub>2</sub>" leaflet.

Identify and describe **three Design Principles** that make an impact.

Principle 1 .....

Description:

Principle 2 .....

Description:

Principle 3 .....

Description:

5.

Please refer to the "Events at The O<sub>2</sub>" leaflet.

Annotate the leaflet to show:

- Footer
- Bleed
- Headline
- Gutter
- Reverse Text
- Rule

Total (6)



6. Two different types of balance are shown in the graphic items below. With reference to Design Principles:

- a) name the type of balance;
- b) describe how the balance is applied in each composition.

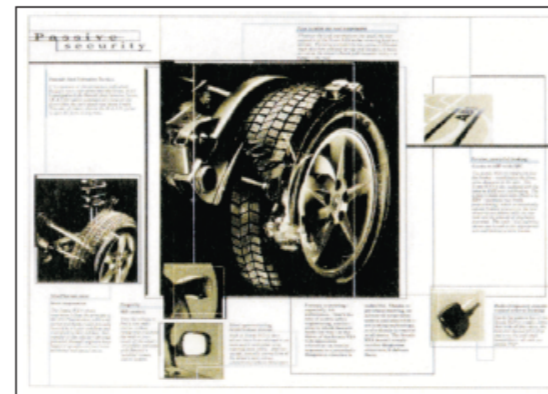
1 Name of balance .....

Description



2 Name of balance .....

Description



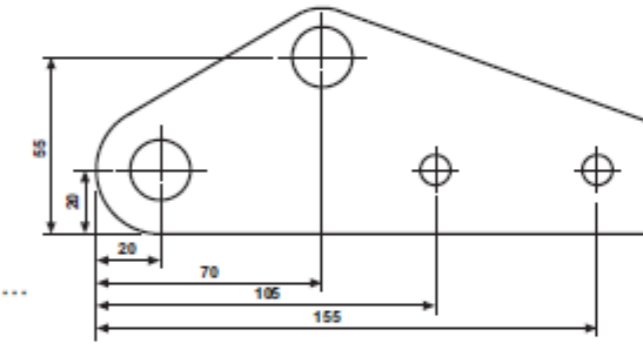
Total (4)

7.

Three methods of dimensioning the position and diameter of holes on a plate are shown below. Marks

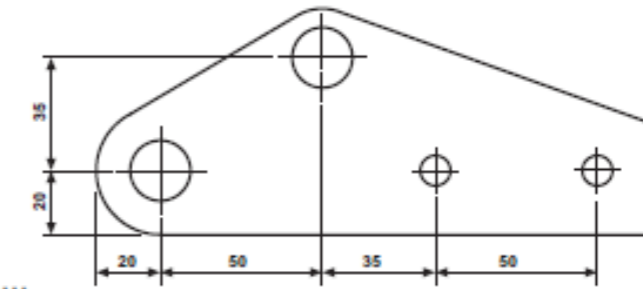
(a) State the British Standard **term** for each method.

Method 1 .....



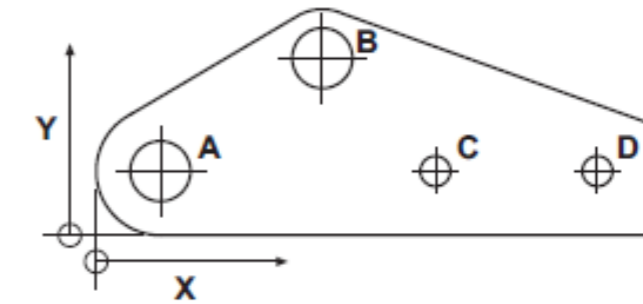
1

Method 2 .....



1

Hole	X	Y	Ø
A	20	20	20
B	70	55	20
C	105	20	10
D	155	20	10



Method 3.....

1

(b) (i) State an advantage of dimensioning using Method 1 over Method 2.

.....  
 .....

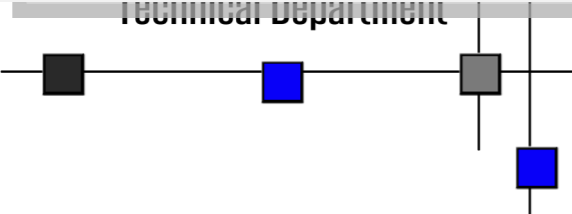
1

(ii) State an advantage of dimensioning using Method 3 over Method 1 and Method 2.

.....  
 .....

1

(5)



1.

Please refer to the Leaflet for use with Question 1.

Design Elements and Design Principles should be considered when producing a page layout. With reference to the Leaflet for use with **Question 1**, select **two Design Elements** and **two Design Principles**. Identify and describe how each contributes and makes an impact for the given page.

Design Element 1 .....

Description:

Design Element 2 .....

Description:

Design Principle 1 .....

Description:

Design Principle 2 .....

Description:

Total (8)

**PICNIC TIME**

# Come outside

The sun's shining, there's not a cloud in the sky... grab that picnic hamper and go!

**The best** picnic food is simple, fuss-free and totally delicious. And that's just what you'll find at Asda, from tasty cooked meats and handy dipper snack packs to ready-cooked chicken wings and drumsticks that you can enjoy cold or sizzle up on the barbie. There's all you need for a fun feast in the sun.

**KEEP IT COOL**

- Put frozen gel packs in your coolbag to keep food cold. Or you can freeze individual drink cartons to create space-saving ice packs.
- If you're driving, keep the coolbag in the passenger area of your car, rather than in a stuffy boot.
- When you've served out, pop leftover food back in the coolbag straightaway, until you're ready for seconds.
- Keep the coolbag in the shade while you picnic.

**Roll up, roll up!**  
Picnic in style with a platter of mouthwatering cold meats, including honey roast ham, best topside of beef and chargrilled style chicken.

- Asda Honey Roast Dry Cure Ham**, £1.48 (150g; 99p/100g; chiller)
- Asda Chargrilled Style Chicken**, £1.48 (150g; 99p/100g; chiller)
- 3 for £4**
- Asda Roast Pork Loin**, £1.48 (150g; 99p/100g; chiller)
- Asda Wafer Thin Topside of Beef**, £1.48 (100g; £1.48/100g; chiller)

**Fancy a dip?**  
A must for kids' lunchboxes, these mini sausages and tender chicken chunks come with their own yummy dips. With the sausages you can choose from a BBQ, Spicy or Tangy dip, while the Kofta Bites have a minty raita dip. The Tikka and Mexican style chunks come with a tangy sauce and crunch dip duo for a new taste sensation.

- Asda Snackin' 8 BBQ/Spicy Dippers**, 98p (105g; 93.3p/100g; chiller) **2 for £1.50**
- Asda Snackin' Mini Chicken Kofta Bites**, 98p (85g; £1.15/100g; chiller) **2 for £1.50**
- Asda Snackin' Mexican Style Dip 'n' Crunch**, £1.48 (115g; £1.28/100g; chiller)

**Drum up a feast**  
Pop some spicy tikka or Chinese style drumsticks on the barbie for an instant sizzling treat.

- Asda Ready To Eat Chinese Style/Tikka Chicken Drumsticks**, £2.88 (603g; 47.8p/100g; chiller) **2 for £5**

**Snack attack**  
Make sure you've got a pack of this classic dry cure ham in your hamper – the wafer-thin slices are perfect for sandwiches and salads. And don't leave home without some succulent satay sticks – made from 100 per cent chicken, they come with either a Tomato or Sweet Curry dip.

- Asda Wafer Thin Dry Cure Oven Baked Ham**, £1.48 (150g; 99p/100g; chiller)
- Asda Satay Snacks + Dip**, 98p (90g; £1.08/100g; chiller) **2 for £1.50**

**Perfect for PICNICS**  
Picnic fare doesn't get much better than these lightly spiced chicken wings – one just won't be enough.

**So simple**

- Pick-me-up chicken**  
Bring a disposable BBQ on your picnic so that you can enjoy piping hot, spicy chicken wings. No need to season, marinade or wait for them to cook. Just give them a sizzle until they're hot all the way through and get stuck in.

- Asda Ready To Eat Chinese Style Chicken Wings**, £2.88 (702g; 41p/100g; chiller)
- Asda Ready To Eat Hot & Spicy Chicken Wings**, £2.88 (702g; 41p/100g; chiller) **2 for £5**

Let's meat up! 9

2.

When handling graphics, Vector and Bitmap images are used.

SECTION  
Marks

(a) Describe, with the aid of sketches, the difference between a Vector and a Bitmap image.

(b) Explain **two** advantages a Vector image has in comparison to a Bitmap image.

2

2

Total (4)

3.

A page layout is shown below.

In the space provided, name the Desktop publishing features identified (A to F).

A ..... B ..... C .....

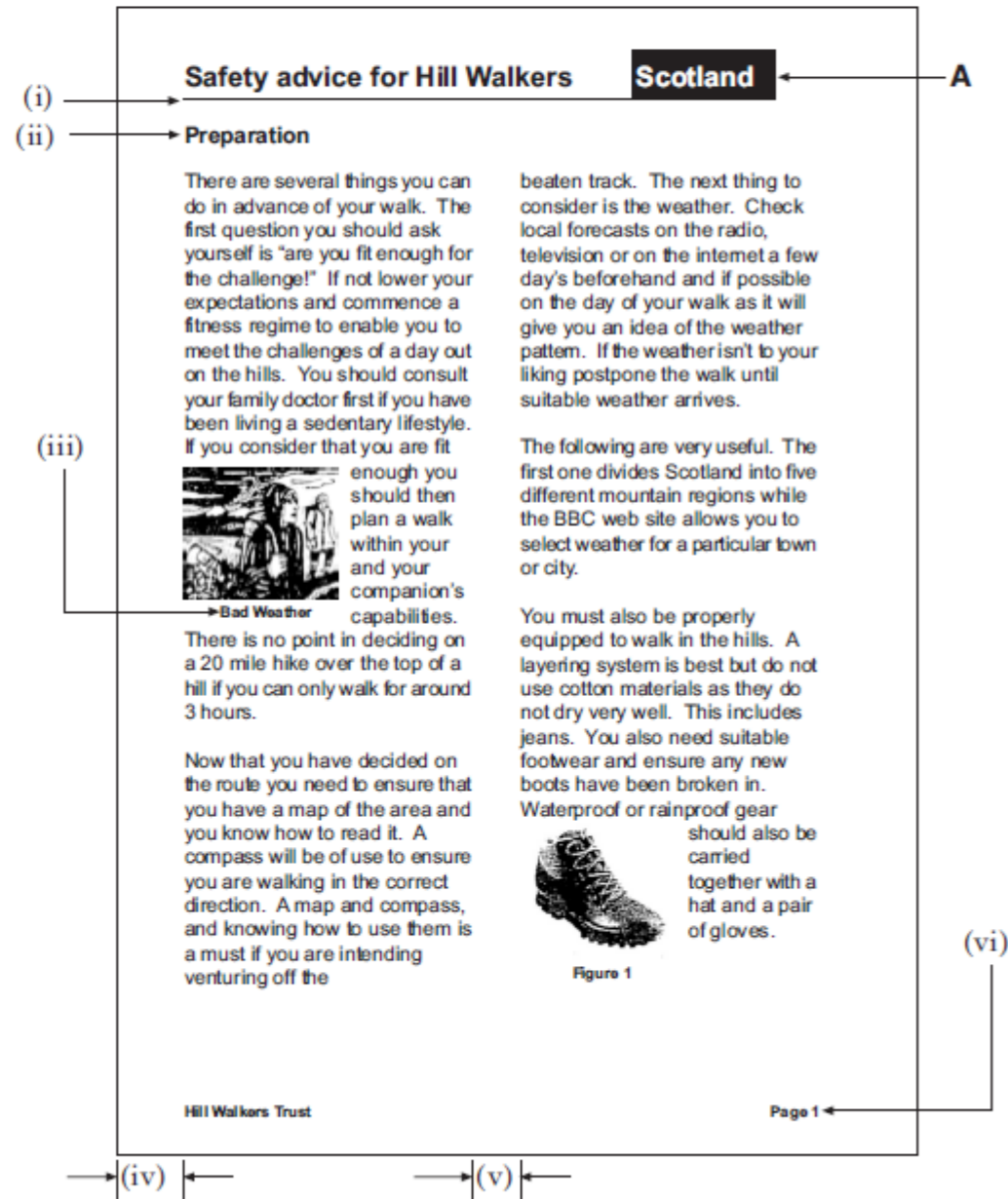
D ..... E ..... F .....

Total (6)

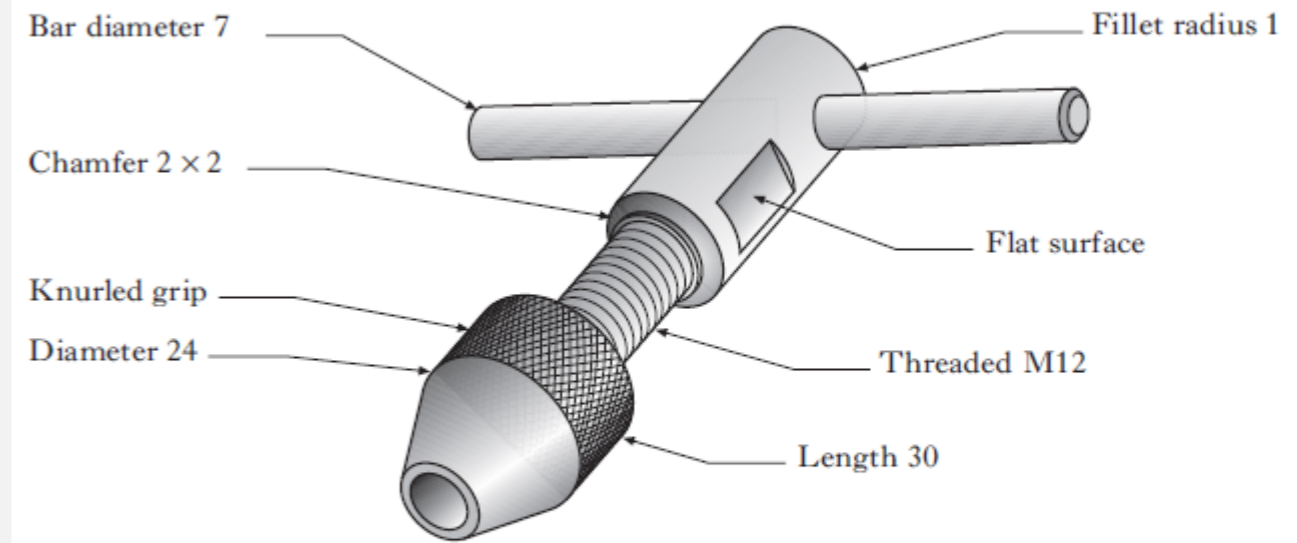


4.

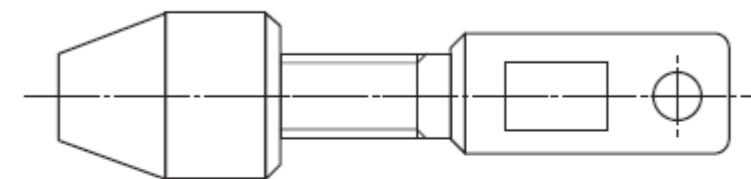
- 4 An example of a desktop published (DTP) safety leaflet is shown. M<sub>6</sub>
- (a) State the desktop publishing effect indicated at **A**.
- .....
- (b) State the page orientation of the leaflet below.
- .....
- (c) State the desktop publishing terms for each of the features (i) to (vi).



5. A pictorial view of a tap wrench is shown. Six sizes are given. Marks



- (a) Sketch to British Standards conventions, the six given sizes on the orthographic view below.



- (b) Sketch, on the orthographic view above, the British Standards convention to indicate:

- (i) the flat surface on the barrel;
- (ii) the knurled pattern on the chuck.

6

2

(8)

A supplementary page is included at the end of Section A for use if extra space is required. Marks

6. Preliminary, Production and Promotional graphics are used extensively in the consumer, construction and engineering industries.

Explain the purpose of each **type** of graphic and give **one** example of each.

<i>Preliminary</i>	Purpose .....	1
	.....	
	Example .....	1
<i>Production</i>	Purpose .....	1
	.....	
	Example .....	1
<i>Promotional</i>	Purpose .....	1
	.....	
	Example .....	1
		(6)

7.

(a) An architect wishes to draw the **Floor Plan** of a house. He has a choice of two scales. Marks

(i) State which **two** scales are the common scales for drawing a floor plan.

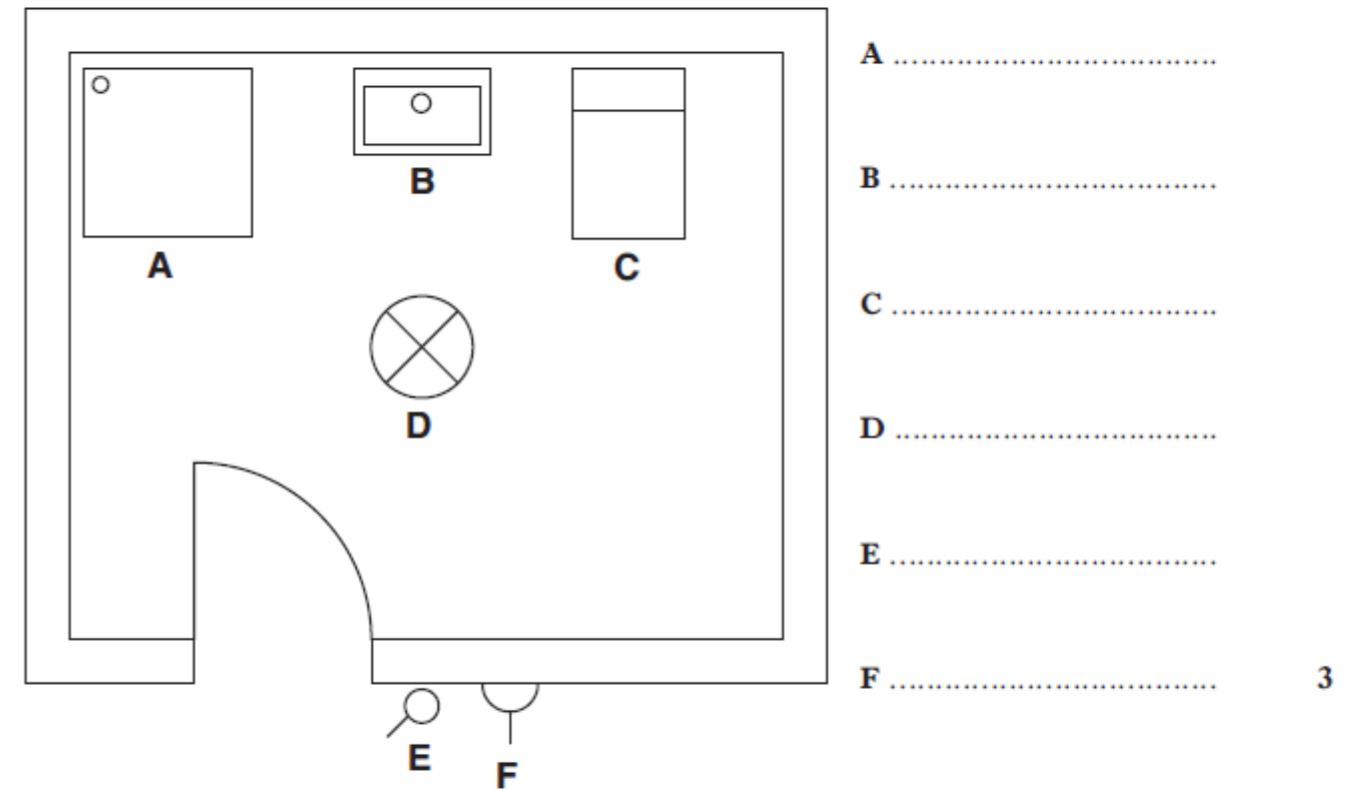
Scale 1 ..... Scale 2 ..... 1

(ii) State **two** reasons which might influence his choice.

Reason 1 ..... 1

Reason 2 ..... 1

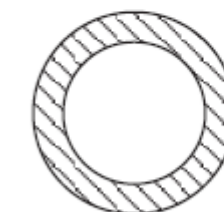
(b) Name each of the **British Standards symbols** shown on the graphic.



(c) Two incomplete views of a hollow, thick-walled cylinder are shown. Sketch the **British Standards line types** for centre lines, hidden detail and cutting plane in the appropriate positions. (You may use a straight edge.)



ELEVATION



SECTION A-A

3  
(9)



1.

Please refer to the Leaflet for use with Question 1.

Study the "Insight" leaflet.

State **three design elements** that have been **applied** to the leaflet and describe the effect produced by each.

1.

2.

3.

**Insight** Recent research, fascinating facts, snippets and great prizes – your news starts here

**Brain needs a boost?**  
Good news for chocoholics! Once again, scientists have given cocoa flavonols – natural compounds found in cocoa beans – their seal of approval. A study at Nottingham University found that chocolate not only boosts brain power, but could also help stroke patients. All it takes is 150mg of cocoa flavonols for five days to increase the blood flow to the brain. A daily hot chocolate might just be what the doctor orders.

**Oh, the poor puppy!**  
There's a revolution going on in all the Ricky Gervais-style offices across the country. Corporate speak is imploding from a whole new vocabulary. Just when we've mastered **blue skies approach** and **monkey on your back**, academic Tony Thorne, author of *Shoot the Puppy* (Penguin, £12.99), says we have to learn new buzz phrases, such as **deskfast** (eating breakfast at your desk), **muppet shuffle** (moving a difficult colleague into a position where they can't do any harm) and **knife-and-fork it** (dismantle an issue). And then there's **shoot the puppy** (doing something so radical it seems unthinkable). Pity the puppy...

**DID YOU KNOW?**  
A third of the average UK spending on food goes on convenience food\*

**FASHIONABLE SOLUTION**  
With our ageing population, it's once again stylish (and useful) to have a granny annexe attached to the house. Indeed the property pages are full of ads offering a 'des res' with self-contained annexe. The good news is that an annexe is exempt from council tax (the ruling changed in 1997), provided it's occupied by a family member over 65; however, this tax break doesn't apply to Scotland. An über-modern alternative to a granny flat is one of the newer Scandinavian exports, which puts granny in a cabin in the garden. And at roughly £26,000 for these deluxe Wendy houses, she can hardly complain.

**The power of podcasts**  
Such is the success of the podcast that leading legal publisher Sweet & Maxwell is offering law students free podcasts to help them revise, with updates on the latest legal developments. These audio recordings can be delivered via iPod, computer or phone. Not a new idea (Pru's latest podcast, *Retirement essentials – 10 things to do when you retire*, is on [www.pru.co.uk](http://www.pru.co.uk)), but a fun, new-tech way of delivering info that – especially in the case of law – must be learned drearily by rote.

**Women at risk**  
The sad fact is that only a third of women in the UK save for a pension. This doesn't bode well for a happy, cushioned retirement. In fact, according to a recent survey for Investec, of those women who have a pension, fewer than half think they'll have enough income in retirement. And many expect to have to work longer into retirement to make up the deficit. What holds many women back from saving is that they use any extra income they have on their children. While the Government recently revealed in a White Paper that it will try to address the problem of pension reform, the challenge may be an emotional one. Says independent adviser Julie Hedge, "Women tend to spend their money on their families. Men are more tuned in to the importance of pension saving and are likely to have company pensions. But women overlook retirement savings at their peril." The best advice from any quarter is: it's never too late (see Prudential's contributions calculator at [www.pru.co.uk](http://www.pru.co.uk)).

**WIN! A luxury 12-day European river cruise**  
Prudential has teamed up with Page & Moy ([www.pageandmoy.com](http://www.pageandmoy.com) or 0870 010 6434) to offer one lucky reader and a guest (aged 18 or over) a relaxing River Cruise on the Rhine, Main and Danube. You'll have a twin cabin on the Mozart deck of the stylish 4-star *AM Serenade* as you meander along these great rivers. Built to the highest standards of safety and design, the *AM Serenade* offers something for everyone. Return flights from London Heathrow and all meals on board ship are included in the price.

**TO ENTER:** Visit [www.pru.co.uk/magazine](http://www.pru.co.uk/magazine) and click on the Win link. Or send your details on a postcard to: Cruise Break, Prudential Magazine, Packmail, Preley Way, Coventry, CV3 9FN. Closing date: 30 November 2006.

6 prudential magazine

www.pru.co.uk/magazine 7



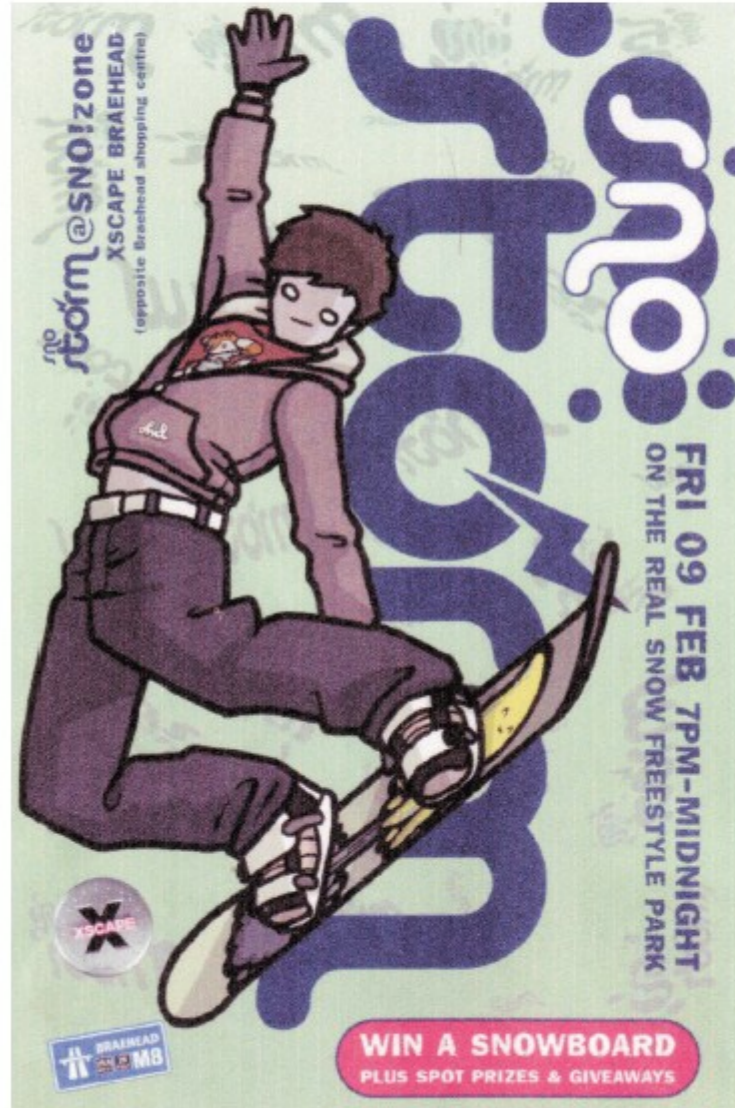


2.

A commercially produced design proposal for a promotional leaflet is shown below.

- (a) In the position indicated, produce an alternative **full size** visual design using your knowledge of Design Principles.

5



- (b) Identify and describe **two** Design Principles used in your alternative design describing the impact they had on your design.

Design Principle used .....

Description of impact

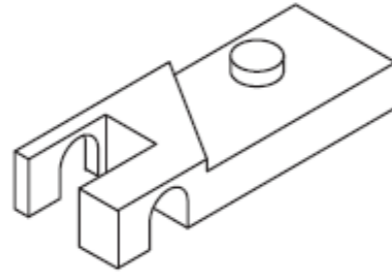
Design Principle used .....

Description of impact



3.

A 3D CAD solid model of a component is shown. With the aid of sketches, explain how this 3D CAD solid model of the component will be produced.



Mar

4.

3. (a) (i) Sketch a rectangle 40 mm × 30 mm in **landscape** format: include the capital letters ABC, to demonstrate the DTP effect, **reverse**.

SKETCH

2

- (ii) Describe, by means of a sketch, the term **text wrap**.

SKETCH

1

- (b) Describe **each** of the following DTP terms, using a sketch if required.

**Footer**

1

**Column rule**

1

**Gutter**

1

**Box**

1



6.

(a) (i) Describe what is meant by **dimensional tolerancing**.

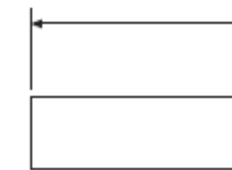
.....  
 .....  
 ..... 1

(ii) State **two** reasons why tolerances are an important feature in manufacturing.

Reason 1 ..... 1

Reason 2 ..... 1

(iii) Show a horizontal linear dimension of 30 mm with a tolerance of +0.15 and -0.25 applied directly to the given graphic, using a recommended method.



1  
(4)

5. Production drawings are used in the Consumer, Engineering and Construction industries. State a **different** example of a **Production** drawing applicable to each industry.

**Consumer industry** .....  
 ..... 1

**Engineering industry** .....  
 ..... 1

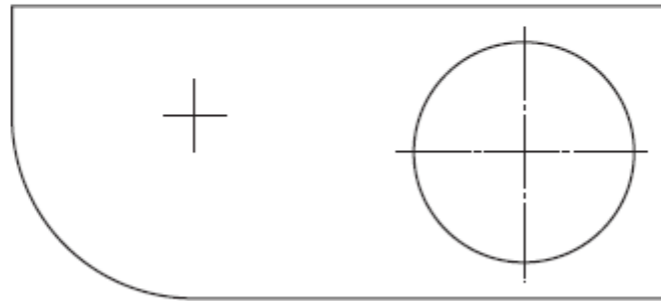
**Construction industry** .....  
 ..... 1  
 (3)

5.

The component below is drawn to a scale of 1:10.

Dimension the drawing, using **British Standards**, to include:

- (i) the overall length; 1
- (ii) the overall height; 1
- (iii) the radius. 1



(3)



1.

The graphic shown below is a page out of a magazine.  
Rule off and annotate the given page to show the terms listed below.

- Grid structure
- Gutters
- Left margin
- Body text
- Bleed
- Sub Headline

(6)

**Health Problems**

**IRRITABLE BOWEL SYNDROME**  
Irritable Bowel Syndrome (IBS) is the most common bowel disorder in the western world, but it is largely unspoken about, as sufferers usually feel too embarrassed. Often help is not sought even though symptoms can be painful and can evolve into life threatening conditions. IBS is twice as common in women than in men, usually occurring between the ages of 20 and 40. Its symptoms are constipation or diarrhoea or a change between both of these. Stomach ache, bloating and wind may also be present with the condition. IBS may be triggered by stress, hyperventilation, hormone imbalances and different types of food. Unfortunately, because there are many causes, there is no single effective treatment. For some, the answer is a high fibre diet, for others a low fibre diet or an exclusion diet to avoid offending foods. In some cases drugs may be prescribed. Research has shown that over half of IBS sufferers have a food intolerance. The 5 most common foods that sufferers are intolerant to are: wheat, corn, milk, cheese and oats. However, before any ingredients are avoided, your diet should be assessed by a dietician or your doctor. For further information contact your doctor or the IBS Network 0114 2611531

**OSTEOPOROSIS**  
Osteoporosis is a disease that thins the bones, making them weak and brittle. Small knocks and bumps easily cause fractures or breaks, especially in vulnerable areas like the wrists and hips. 1 in 3 women and 1 in 12 men suffer from the condition. However there are no obvious warning symptoms and usually a break or fracture is the first sign. Some factors increase your risk of osteoporosis: being underweight, family history (your genes), post-menopause, eating disorders, insufficient calcium and Vitamin D intakes, low hormone levels (oestrogen and testosterone), smoking, alcohol, and the use of certain medications (corticosteroids and anticonvulsants). **CAN I HELP MYSELF?** Reduce the risks of osteoporosis by enjoying a healthy diet rich in calcium and Vitamin D from an early age, because by 30-35 years your bones have reached their maximum density (with peak calcium content). Maximum bone amounts can be achieved by:  
1. Increasing weight bearing sports such as walking, running, gym training and even skipping and dancing.  
2. Avoiding smoking and excessive alcohol.

3. Ensuring you have a good nutritionally balanced diet that contains plenty of calcium and Vitamin D. For pre-menopausal women Hormone Replacement Therapy (HRT) can help prevent bone loss. During the menopause the level of the hormone oestrogen falls, resulting in bone and calcium loss, however HRT can limit the effects. For more information contact your doctor or National Osteoporosis Society PO BOX 10 Radstock Bath BA3 3YB Tel: 01761 471771

**ARTHRITIS**  
Arthritis causes inflammation and swelling in the joints. The two most common types are: **Osteoarthritis** (most common) mainly affects the weight bearing joints such as the hips, knees and spine. The symptoms range from aches and stiffness to what can eventually lead to a crippling disease. It is caused by the breaking down of the cartilage. Once the cartilage is worn the bones rub together causing inflammation. **Rheumatoid arthritis** is a disorder in which the body progressively breaks down the joints, however remissions can occur. It has been reported that sufferers of rheumatoid arthritis often have lower intakes of folic acid, Vitamin B6 (pyridoxine), zinc and magnesium. Anaemia is also a common problem as a result of low intakes of iron. For more information ask in-store for a Vitamins and Minerals fact sheet. The omega 3 fatty acid, eicosapentaenoic acid (EPA) has been shown in a study to relieve morning stiffness and cause fewer tender joints. Similar results were obtained with evening primrose oil, a rich source of gamma-linolenic acid (GLA). There are many diet treatments, self-help remedies and even claimed 'cures' for rheumatoid arthritis. However most are unproven, and may not benefit your health long term. Before beginning any diet consult your doctor, who may refer you to a dietician for advice. For further information contact Arthritis Care 18 Stephenson Way London NW1 2HD Helpline 0800 800 4050

**CAN I HELP MYSELF? OSTEOARTHRITIS**  
There are no special diets for osteoarthritis, but it is easy to become overweight. Every step taken increases the load on these joints by 3-5 times the body weight, therefore weight control is vital to minimise stress, reduce pain and optimise mobility.

**RHEUMATOID ARTHRITIS**  
It is not agreed whether your diet affects the treatment of rheumatoid arthritis, however studies clearly show people with this disease are at risk of poor nutrition. This may be a result of a decreased appetite due to constant pain and immobility, or because of problems with shopping, preparing and cooking of foods.

2.

# Type Specification

- (b) Explain, with the aid of annotated sketches, the differences between a serif and a sans serif typeface.

3.

"Balance" is a Design Principle. Two types of "Balance" are:

- Symmetrical
- Asymmetrical.

For each type of "Balance", sketch or describe the typical layout of a DTP page.

- (i) Symmetrical

- (ii) Asymmetrical

2

4.

When producing an effective layout, Design Elements and Design Principles should be considered.

Explain, with the aid of sketches, how the following Design Elements and Design Principles make an impact in a publication.

Contrast

Shape

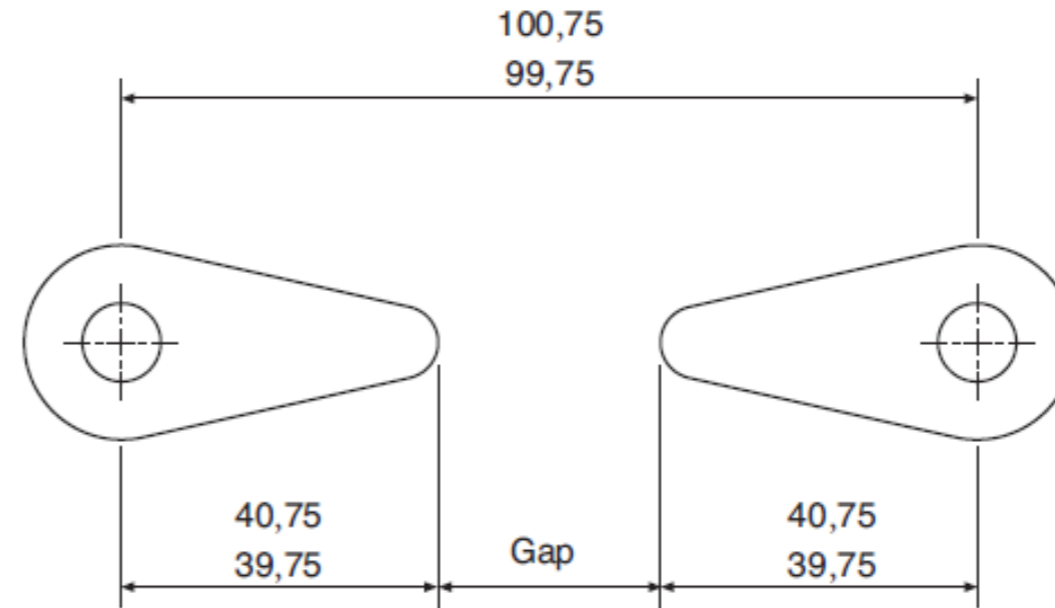
White Space

2

2

6

Marks



The paddles from a pinball game are shown. The paddles are set at a nominal 100 mm apart centre to centre.

The distance between the pivot centre and the end of the paddle is 40 mm with a tolerance of +0.75 and -0.25 applied.

Calculate the maximum and minimum gap between the paddles.

**(Show all relevant calculations.)**



1.

**MORAY MONSTER TRAILS**

**WHITEASH**  
- Winding Walks Car Park  
The Fochabers Ring  
Grade - ▲ DIFFICULT  
A varied and full-on cross country trail you'll want to ride again and again. A "no gain, no pain" climb up to the monument and then the fun starts. A sense of adventure - essential; Hobbit's hairy feet - optional! To complete the Ring is a fair outing of around 8 Km.

**Fochabers Freeride**  
Grade - ● EXTREME  
This trail is for advanced riders only. No matter how good you are - WALK IT BEFORE YOU RIDE IT! Initially built almost entirely by volunteers, this is where the whole Monster Trails project started. Follow "The Ring" to the monument and then prepare for some very wild and scary riding! The top section of the Freeride trail includes big technical "northshore" wooden structures. Please make sure you're capable of this style of riding - most of us aren't!  
The second section is big earth features, drops and jumps.  
After section 2, join "The Ring" back to the car park.

**ORDIEQUISH**  
Start here if you're looking for easier routes, but also the Gully Monster and some longer routes - something for everyone!  
The Soup Dragon  
Grade - ■ MODERATE  
This is just pure fun - a fun packed friendly route that can be enjoyed at any level. You're in control! Just one catch - you first get to go up! Don't worry, your climb up will be well rewarded! It's soap time! Want just a bit more? Keep climbing for an add on - "The Dragon's Tail". Allow 45 mins - 5 km (3 miles) round trip from the car park. Then do it again!

**The Haggis**  
Grade - ■ MODERATE  
You just want more don't you? You want to meet The Haggis. This beastie, well known for running around mountains has lately taken up mountain biking. He calls it progress. A great trip - full of interest - loads of fun, a fair distance but not too technical. The Haggis Connection is your gateway to Ben Aigan if you really fancy a long day.

**Gordzilla**  
Grade - ■ MODERATE  
A strange beast, twice the size of any man, who builds trails through the wood when you're sleeping. Gordzilla gave up cycling mountain bikers and now survives on porridge. A great flowing route - cruise it or ramp it but you'll certainly enjoy it. As with others here, can be linked to others like The Haggis. Allow 1 hr.

**The Gully Monster**  
Grade - ◆ SEVERE  
An awesome trail of monster proportions! You won't have ridden anything quite like this before. Full of technical interest. This isn't your domain - this is the home of the Gully Monster.

**Skills Area**  
Just up from the Ordiequish car park. Learn more advanced bike skills here - Bank a berm, take on a tabletop and blast a bomb here. Hone your technique and transfer it to the trail like an expert.

**BEN AIGAN**  
The Ben Aigan Hammer  
Grade - ▲ DIFFICULT  
Wow. A knock-out from The Hammer. One long big hit ride around the summit of Ben Aigan with stunning views of the Spey valley. Big earth features, and even board walk sections. Finish off with the Mast Blast or Bunny for the full Ben Aigan experience. (The trail is often affected by winter weather).

**The Mast Blast**  
Grade - ◆ SEVERE  
A rushing downhill just beyond the big transmitter mast. Time to rock and roll! Deceptively speedy, with jumps. Check your speed and expect the unexpected. Spin City follow on: Hit the forest road and turn right. Don't miss the marker to take you off right to more single track switchbacks all the way back to the car park.

**The Bunny**  
Grade - ● EXTREME  
What a thumper. Fast, free and furious, this trail has it all. Could it be the thinking rider's downhill? The name? Don't ask! When you hit the road, turn right, keep climbing... and link with Spin City section of Mast Blast.

**QUARRELWOOD**  
A faster easy cross country route, a short ride from Elgin. Practice your skills here and then head up to the main trails around Fochabers. This route is less formal than the main trails and for waymarkers you need to follow the white quartz rocks. Start in the Leggat car park - West end of the forest or from the Brumley Brae car park if you're cycling from Elgin. See map. This is a busy wood used by walkers so please keep everyone happy and follow the code.

**KEY TO MAP**  
Car Park (P), Car Park (K), Cycle Trail (red line), Biking direction (arrow), FC Woodland (green), Non-FC Woodland (yellow), Main Road (thick black), Secondary Road (thin black), Other Road (dashed black), Tarmac (grey), Road / Track (grey with lines), Fochabers Winding Walks Car Park, The Gully Monster, The Soup Dragon, The Haggis, Gordzilla, The Ben Aigan Hammer, The Mast Blast, The Bunny, Quarrelwood, Ben Aigan Hammer, Mast Blast, Bunny, Leggat Car Park, Brumley Brae Car Park.

**NOTE - FOR SAFETY, ALL waymarked cycle trails MUST BE RIDDEN ONLY IN THE DIRECTION SHOWN.**

**Trail problems?**  
You're out there, so if you see any problems that need fixing - let us know (see Moray and Aberdeenshire TD contact details).

**Enjoy Scotland's outdoors responsibly**  
- make responsibility for your own actions  
- respect the interests of other people  
- care for the environment  
KNOW THE CODE BEFORE YOU GO

Design Elements/Principles have been given below.

Please refer to "Moray Monster Trails" leaflet.

For the terms below:

- circle to show whether a Design Element or Design Principle;
- describe with direct reference to the leaflet, how the design element or design principle has been used in the leaflet.

(i) **White space:** Design Element/Design Principle

Description:

2

(ii) **Balance:** Design Element/Design Principle

Description:

2

(iii) **Shape:** Design Element/Design Principle

Description:

(iv) **Colour:** Design Element/Design Principle

Description:

(v) **Contrast:** Design Element/Design Principle

Description:

(vi) **Value:** Design Element/Design Principle

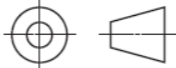
Description:

2.

The graphic shown below is a page out of a magazine. Rule off and annotate the given page to show the Desktop Publishing terms listed below.

- |                  |                   |     |
|------------------|-------------------|-----|
| Column structure | • Gutters         |     |
| Body text        | • Text run-around |     |
| Reverse text     | • Sub Headline    | (6) |

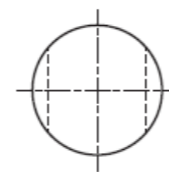
3.

- (a) State the main reason for the use of British Standards conventions on drawings. Marks
- ..... 1
- ..... 1
- (b) State the names of the British Standard conventions shown below.
- (i)  ..... 1
- (ii) A/F ..... 1
- (iii) R ..... 1
- (iv)  $\emptyset$  ..... 1
- (c) State the names of the **two** types of sections shown at **X** and **Y-Y** on the drawing shown below.

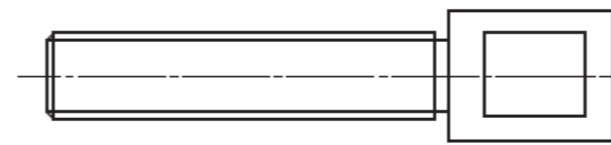
4.

- State **three** factors that would influence the scale of a drawing.
- (i) .....
- (ii) .....
- (iii) .....
- b) What effect would the following scales have on a drawing.
- (i) 2:1 .....
- (ii) 1:2 .....
- c) Drawing sheets are usually presented in one of two orientations. Sketch each orientation and state which orientation they are.
- (i) Sketch

- (d) Sketch on the drawing below, using British Standard conventions.
- (i) The metric thread diameter 12 mm on the elevation.
- (ii) The flat surface at the right hand end of the component.
- (iii) The external thread detail on the end elevation.



END ELEVATION



ELEVATION

Orientation .....

(ii) Sketch

Orientation .....

**Travel**

A little place we know

CASA ALLA SCALA, Sicily



**On a rocky little outcrop** above a harbour and the deep blue sea, Casa alla Scala is a chic, three-bedroomed apartment in the charming fishing village of Santa Maria La Scala in eastern Sicily.

**WHAT'S IT LIKE?**  
The apartment inhabits the whole first floor of a grand villa and is beautifully furnished in a classic-contemporary Italian style. If you want to switch off but, like me, get twitchy by a pool, Casa alla Scala offers the perfect mix of relaxation with a window on to Sicilian life – breakfast on the terrace and watch the busy fishermen below.

**WHAT'S FOR SUPPER?**  
Locally caught seafood – I've never eaten fresher fish. There are two simple, sensibly priced restaurants overlooking the bay, both a five-minute stroll away. At La Grotta you choose your fish from the counter before it's grilled and dressed with olive oil and lemon juice. A classic lemon granita was the perfect finish. Next door, the owner of Trattoria Scalo Grande recommended linguine with gamberini (red prawns), parsley and olive oil – delicious. Our €38 bill for two included half a litre of good house wine and a tomato salad.

**BEDTIME**  
There are two doubles and one twin room, all spacious, filled with elegant antiques and each with its own shower room or bathroom (think rainfall showers, Jacuzzi tubs and fluffy Armani towels). Wake up to uninterrupted sea views through the terrace doors, or a harbour view from the second double.

**HANGING OUT**  
Relax on the terrace or stroll over to a swimming platform on the harbourside for a dip in the sea. A village shop sells bread, milk and other basics; walk a little further and poke your head into the pretty 17th-century church. Lunch at home before retiring for a siesta, but don't miss the shrill whistle of the gelateria van come late afternoon. Treat yourself to brioche con gelato, the typical Sicilian snack – ice cream in a brioche bun that's eaten like a sandwich.

**THINGS TO DO NEARBY**  
The coastal city of Acireale is a 10-minute drive away. Visit the tiny bakery at 51 Corso Umberto, with a fired oven, or have an espresso at Barocco at number 34. Try Pasticceria Castorina (109 Corso Savoia) for a cooling almond granita. Local almonds, pistachios, aubergines, tomatoes and lemons reign supreme. It's worth driving 40 minutes south to Catania's sprawling market; the huge range of fish will excite any cook (you can cook supper on the outside kitchen's barbecue). More sophisticated but touristy Taormina is 40 minutes north – explore the shops then take the cable car down to the pretty beach.

A trip to Etna is a must. On the way, pick up lunch at Viagrande's traditional Gran Caffè Uma (36 Piazza Uma); try its pizza Siciliana – fried and stuffed with local Tuma cheese and anchovies. Drive on to Zafferana Etna (famous for honey), then take the winding Etna road through the olive and citrus groves and vineyards that thrive in the fertile soil to the base of the volcano (eerily cool and black) at Rifugio Sapienza.

**WHO'D LOVE IT?**  
Couples who want a stylish base from which to explore Sicily (you definitely need to hire a car). The second double room is at the far end of the apartment, so it's ideal for a family holidaying with another couple or grandparents.

*How to book* A week at Casa alla Scala costs from £2,730 (sleeps six), including linen, towels and Wi-Fi (think sicily.com). The Think Sicily team can arrange provisions on arrival, day trips, cookery classes, an in-house cook and more. It's a 30-minute drive from Catania airport.

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