

Graphic Communication

Auchinleck Academy

GRAPHIC COMMUNICATION

HIGHER

HOMEWORK BOOKLET

NAME _____

CLASS _____

TEACHER _____



Answer in as much detail as possible.

Contents

Topic 1

The 3 P's

Pages 3-5

Topic 2

Drawing Standards

Pages 6-13

Topic 3

Computer Graphics

Pages 14-24

Topic 4

Desktop Publishing (DTP)

Pages 25-27

Topic 5

Design Elements and Principles

Pages 28-32

Homework 1 - The 3 P's**Due Date - _____****Mark****/13**

1. Complete the table below.

Type of Graphic	Example	Description
Preliminary	1. Freehand Sketches 2. 3.	1. Early design ideas produced quickly, by hand without the use of instruments. 2. 3.
Production	1. 2. Assembly Drawings 3.	1. 2. Scaled, fully dimensioned drawings showing the product in its fully assembled form. 3.
Promotional	1. Advertising Leaflet 2. 3.	1. 2. 3.

1. Describe an advantage and disadvantage of each type of graphic.

Preliminary Graphics

Advantage _____

Disadvantage _____

Production Graphics

Advantage _____

Disadvantage _____

Promotional Graphics

Advantage _____

Disadvantage _____

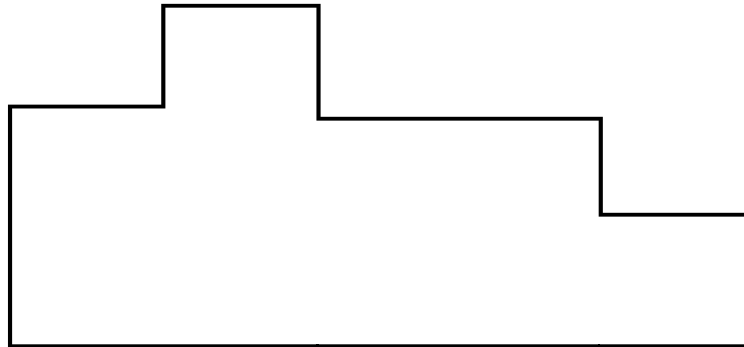
Homework 4 - Drawing Standards

Due Date - _____

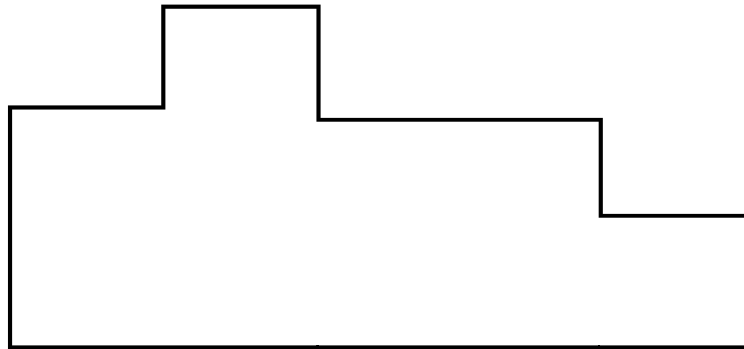
Mark

/8

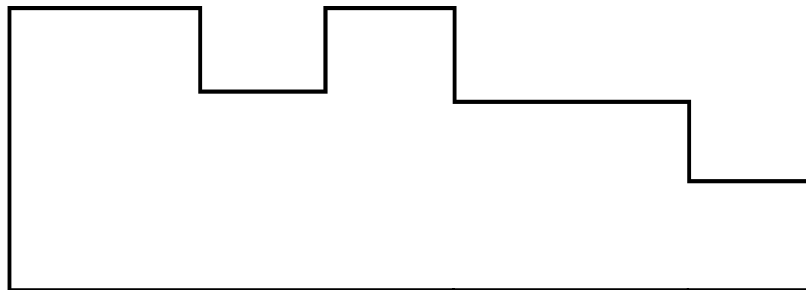
1. Using the method described below, dimension the following objects using British Standards.



Parallel Dimensioning



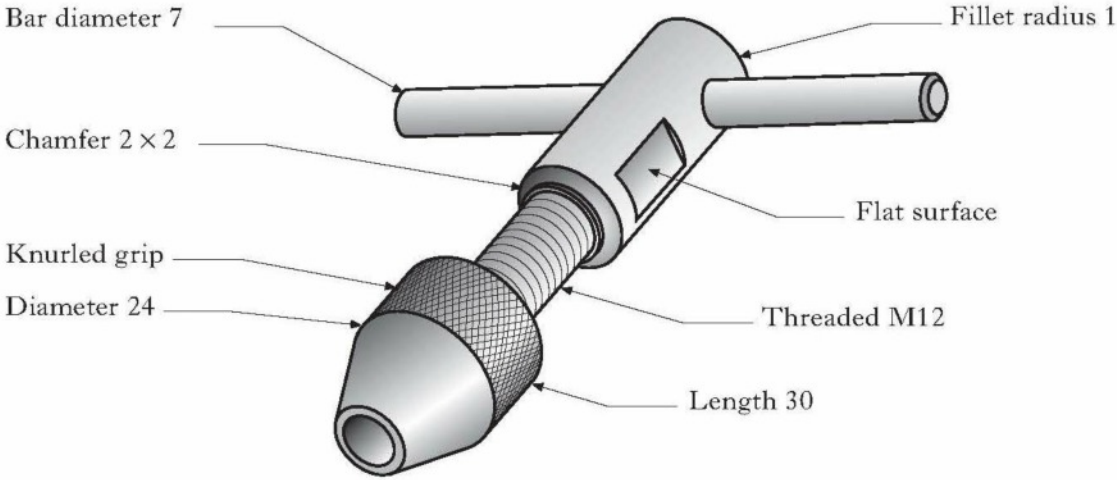
Chain Dimensioning



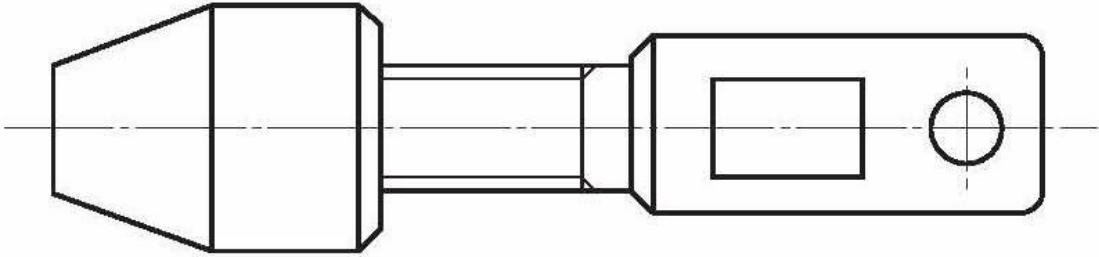
Combined Dimensioning

2. State an advantage of parallel dimensioning over chain dimensioning

1. A pictorial drawing of a tap wrench is shown below.



On the orthographic drawing below, add the given details using British Standards.



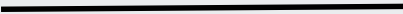


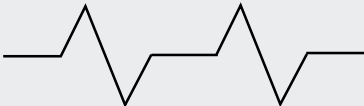
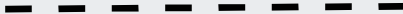
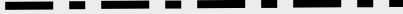


Homework 6 - Drawing Standards

Due Date - _____

Mark

/8

1. Complete the table below.

LINE	DESCRIPTION	APPLICATION
		VISIBLE OUTLINES AND EDGES
	CONTINUOUS THIN	
	CONTINUOUS THIN IRREGULAR	
		LIMITS OF PARTIAL OR INTERRUPTED VIEWS AND SECTIONS IF THE LIMIT IS NOT ON AN AXIS
	DASHED THIN	
		CENTRE LINES, LINES OF SYMMETRY.
	CHAIN THIN, THICK AT ENDS	
		OUTLINES AND EDGES OF ADJACENT PARTS, BEND LINES ON DEVELOPED BLANKS OR PATTERNS.

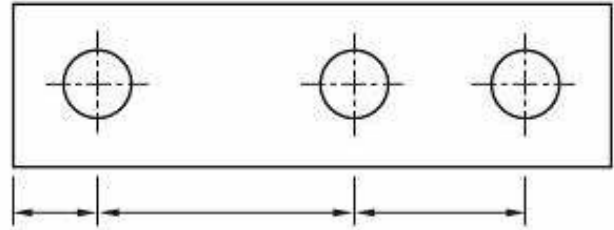
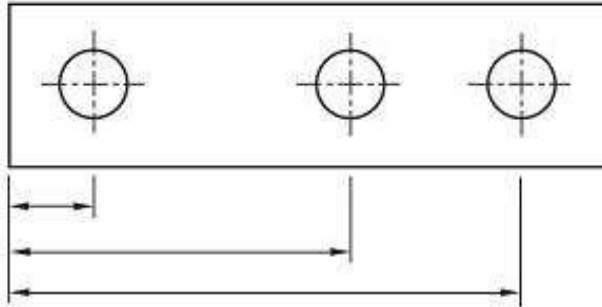
Homework 7 - Drawing Standards

Mark

Due Date - _____

/9

1. Two methods of dimensioning are below. Using British Standard terms, identify each.



Method 1 _____

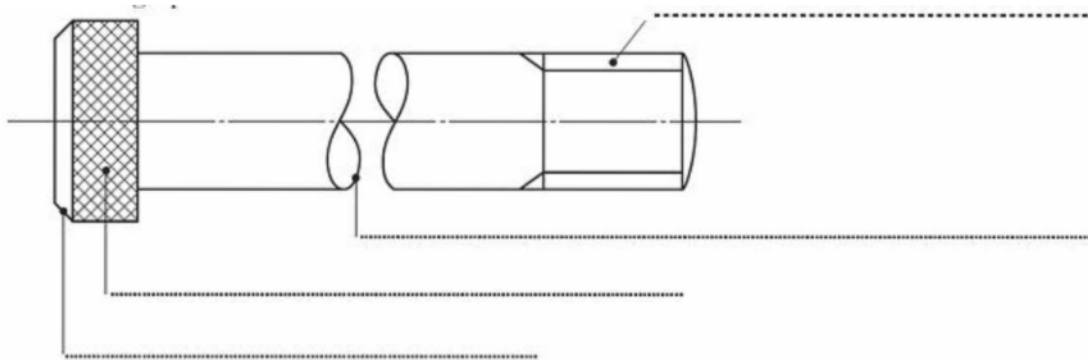
Method 2 _____

2

2. a) State one reason for using British Standards

1

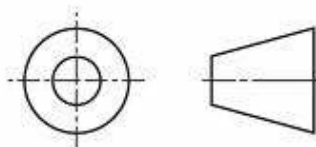
b) State the British Standard conventions and features indicated on the following graphic.



5

3. a) State the name of the following symbol .

1



b) State the type of drawing in which you would find this symbol.

1

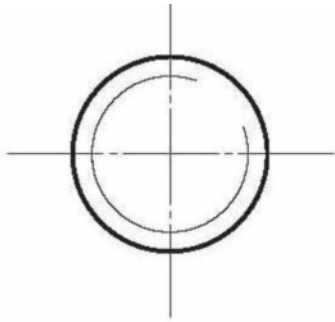
Homework 8 - Drawing Standards

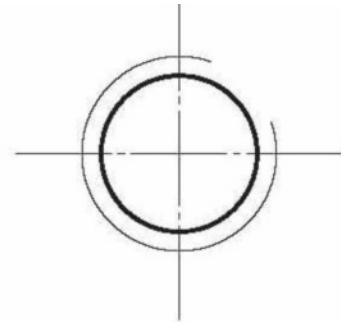
Due Date - _____

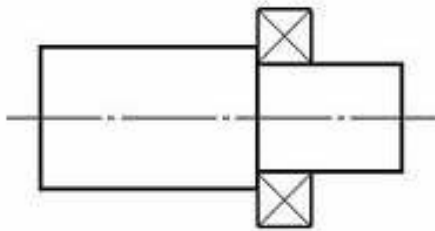
Mark

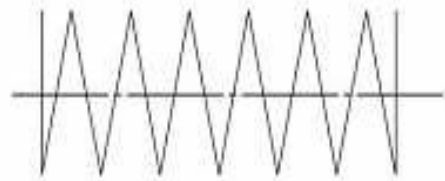
/8

1. State what the following British Standard conventions represent



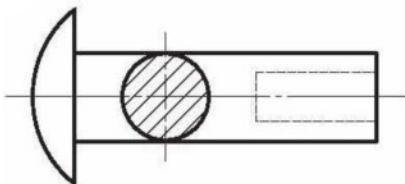


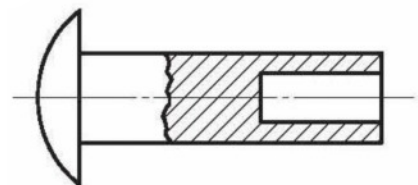


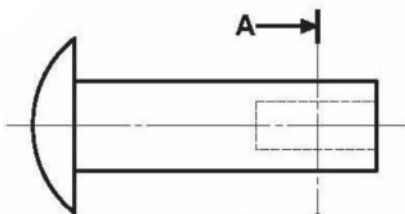


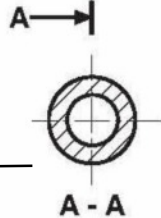
4

2. Identify the following Sectional views.









A - A

4

Homework 9 - Drawing Standards

Due Date - _____

Mark

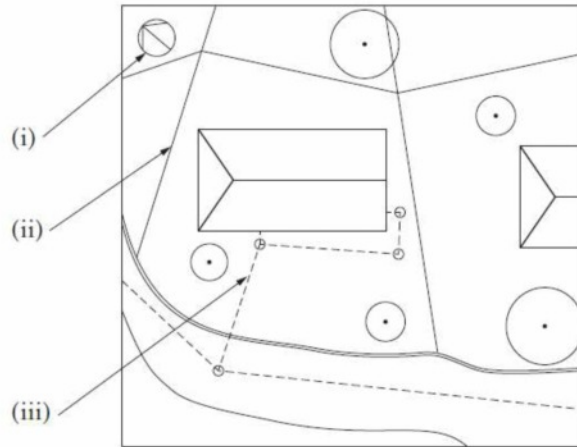
/9

1. A firm of architects have produced a range of building plans for a new house.

(a) Look at the plans shown below and identify the features indicated.

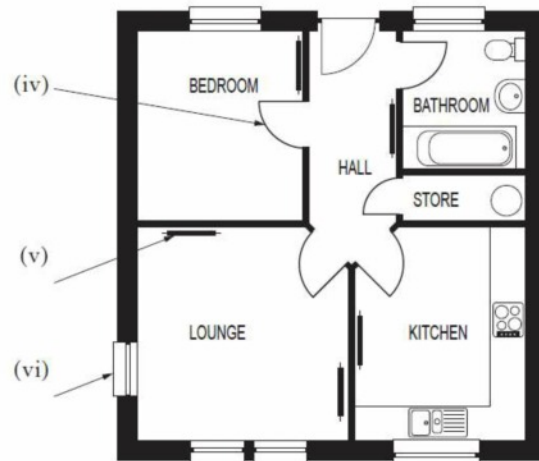
Site plan Feature

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



Floor plan Feature

- (iv)
- (v)
- (vi)



Floor Plan (not to scale)

(b) For each of the above building plan types, state an appropriate British Standard scale.

Site plan scale

Floor plan scale

(c) Name another type of building plan.

Type of plan

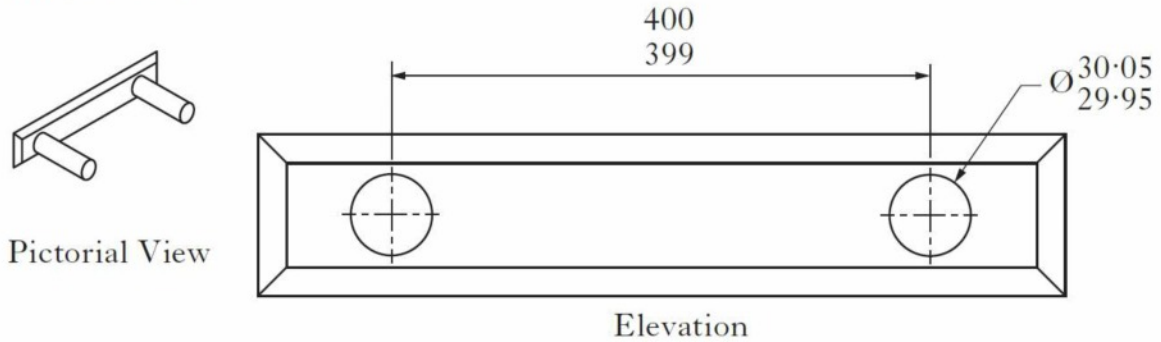
Homework 10 - Drawing Standards

Due Date - _____

Mark

/10

1. A pictorial view and elevation of a menu holder are shown below. The location pins each $\text{Ø}30$ mm are set apart at 400 mm nominal centres. There are tolerances on both the **sizes and location** of the pins and these are shown on the drawing below.



(a) Calculate the **maximum** and **minimum** gap between the pins.

Maximum

Minimum

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

Reason 1

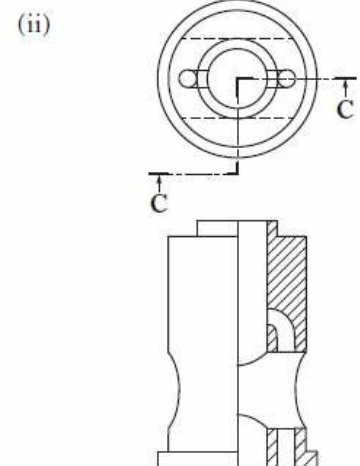
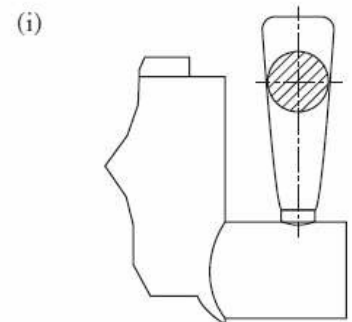
Reason 2

2. **British Standard** conventions are used by the engineering and building Industry.

(a) State the type of sectional view indicated in each drawing.

(i)

(ii)



3. According to **British Standards** the third angle projection symbol is found in the title block of orthographic drawings.

List **four** other pieces of information that a title block should contain.

(i)

(ii)

(iii)

(iv)

Homework 11 - Drawing Standards

Due Date - _____

Mark

/8

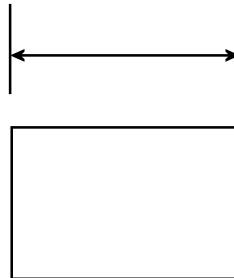
1. What is meant by DIMENSIONAL TOLERANCE?

1

2. Give TWO reasons tolerances are an important feature in manufacturing

2

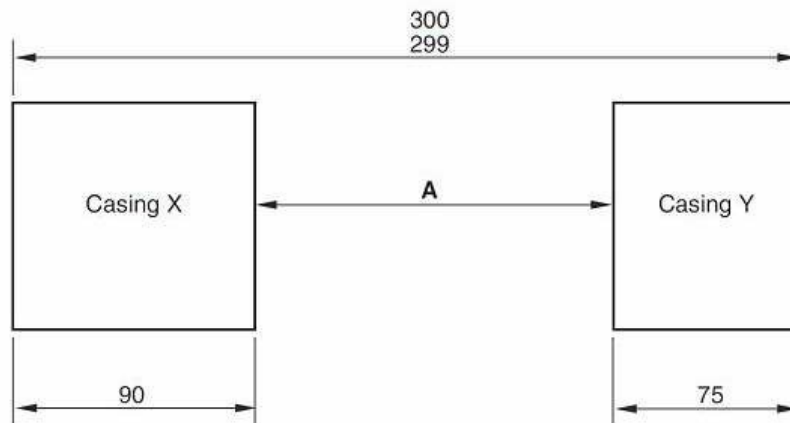
3. Using the graphic given, add a linear dimension of 30mm with a tolerance of +0.15 and -0.25.



1

4. Machine casings are to be positioned according to the drawing below. A tolerance of +1.5mm and -1mm has been applied to the widths of both casings. Their normal sizes and total width that they are apart are given.

Calculate the maximum and minimum distance for the dimension A. Show all calculations.



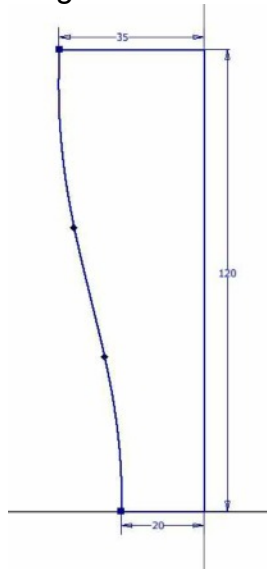
Minimum Distance _____

2

Maximum Distance _____

2

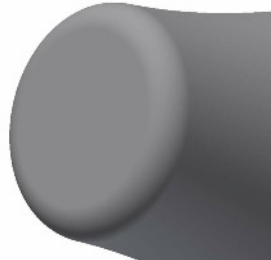
Stage 1



Stage 2



Stage 3



Stage 4



Create a modelling plan for the object shown.

Stage 1.

Stage 2.

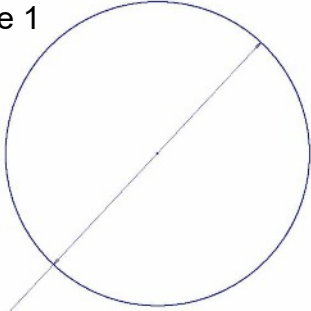
Stage 3.

Stage 4.

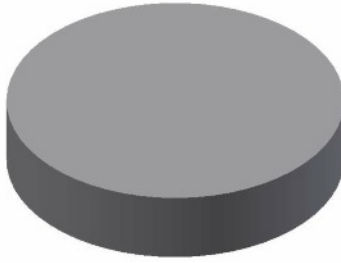
Homework 13 - Computer Graphics
Due Date - _____

Mark
/12

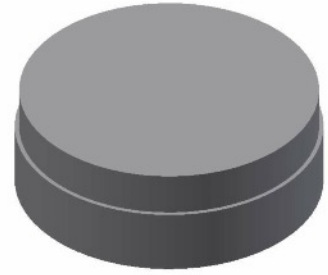
Stage 1



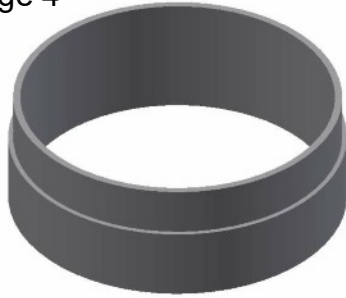
Stage 2



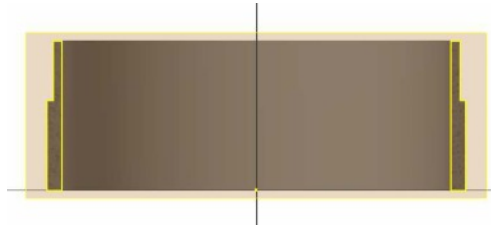
Stage 3



Stage 4



Stage 5



Stage 6



Create a modelling plan for the object shown.

Stage 1. _____

Stage 2. _____

Stage 3. _____

Stage 4. _____

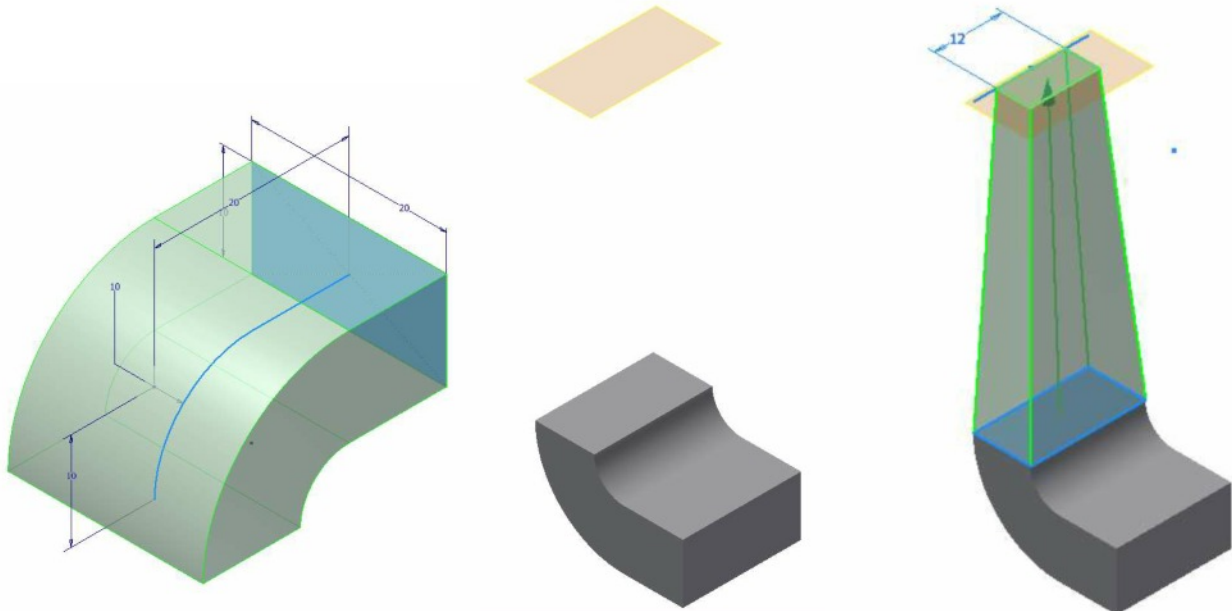
Stage 5. _____

Stage 6. _____

Stage 1

Stage 2

Stage 3



Create a modelling plan for the object shown.

Stage 1.

Stage 2.

Stage 3.

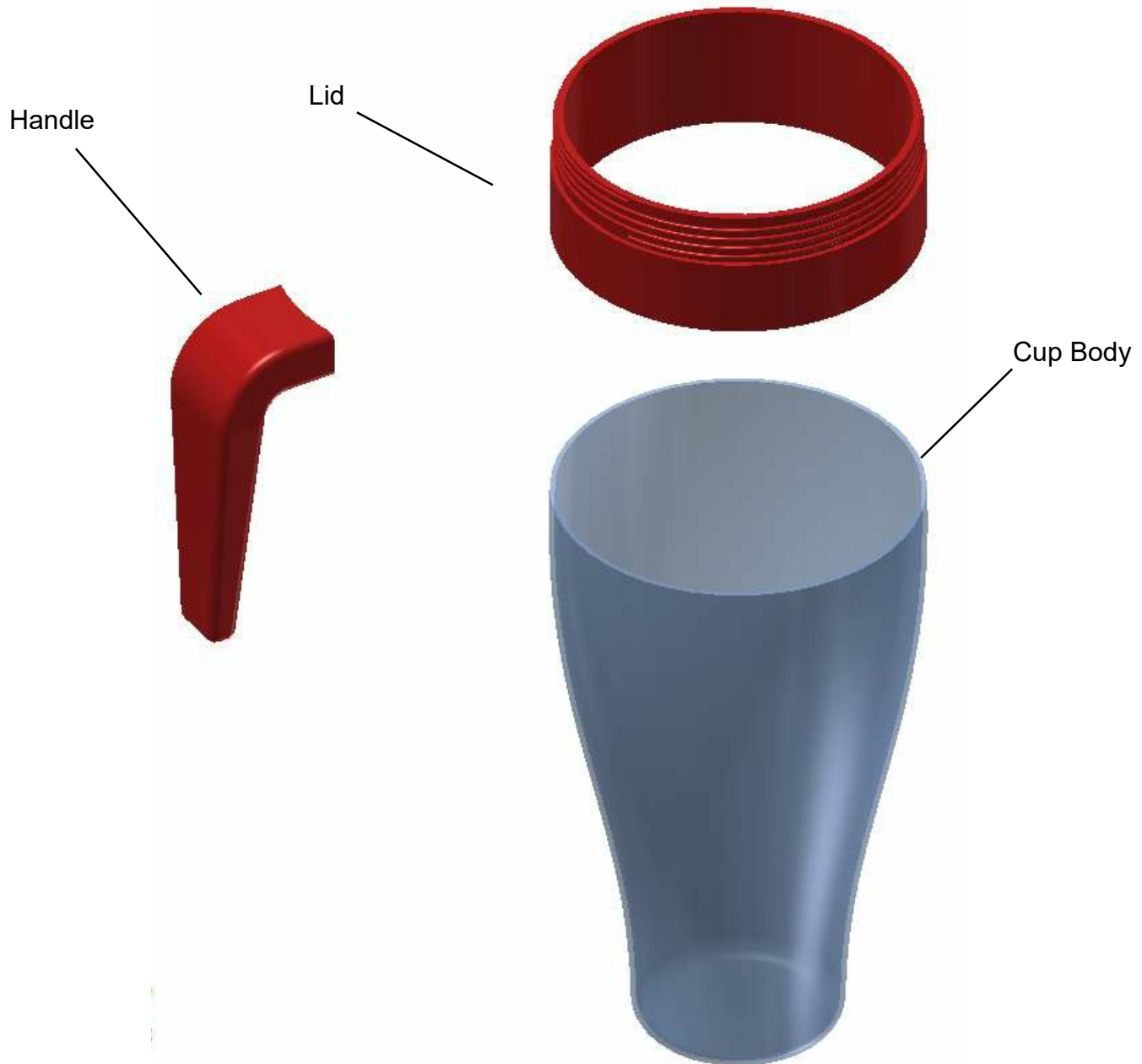
What name is given to the modelling approach where each part is modelled separately and then assembled at the end?

Homework 15 - Computer Graphics

Due Date - _____

Mark

/3



Name the constraint tools required to assemble the object shown above.

To join the curved surface of the handle to the curved surface of the lid:

To make the top face of the handle level with a face on the lid.

To align the centre axis of the lid to the centre axis of the cup body.

Homework 16 - Computer Graphics

Mark

Due Date - _____

/ 8

1. 'Brand Nu Homes' are a housing firm who have been allocated a building plot in the local area. The official website includes various types of graphics aimed at promoting the housing development to the local community.



a) Explain **three** advantages of using rendered CAD pictorials to communicate the house designs to the local community. 3

1. _____
2. _____
3. _____

The architect shared initial sketches of a building idea on the website. These sketches were created using pencil and marker pen.

b) Describe how the manual sketches can be converted to digital images for use on the website. 2

c) Explain why a **jpeg** would be a suitable file format for these images. 1

More initial sketches were "digitally sketched" on a touchscreen tablet.

(d) Describe **two** advantages to the architect of using digital sketching. 2

1. _____
2. _____

Homework 17 - Computer Graphics

Due Date - _____

Mark

/ 7

1. 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

- (a) (ii) Explain two possible disadvantages that may be encountered when two different people work together on the same project using CAD. 2

- b) Identify an advantage of a 'paperless office' to an architectural company. 1

Homework 18 - Computer Graphics

Due Date - _____

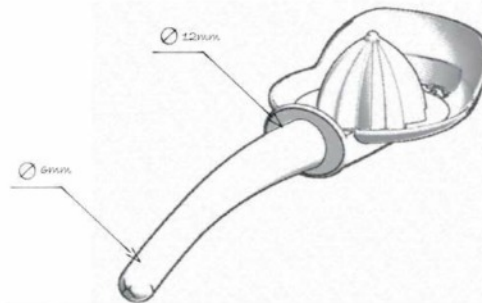
Mark

/3

1. The 3D model below shows a new design concept of a lemon juicer. A CAD technician created the 3D model from a series of 2D and 3D sketches.



The handle has been carefully designed to be comfortable and provide good grip for the user. The outside diameter of the handle gradually changes from 6mm at the bottom to 12mm at the top as shown.



Identify an appropriate 3D modelling technique and describe how it would be used to create the handle shown above. You may use sketches to support your answer.

Homework 19 - Computer Graphics

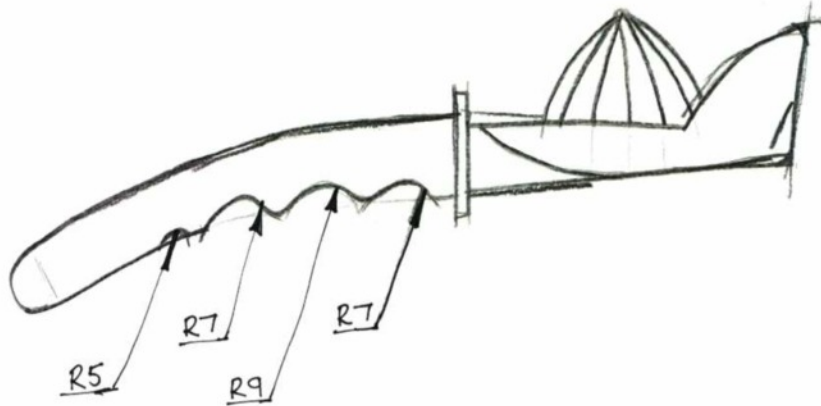
Due Date - _____

Mark

/2

The sketch below was produced to show the radius of the curves for the finger grips.

1. Produce a modelling plan which could be used to create The 4 finger grips. You may use sketches to support your answer.



A large empty rectangular box intended for the student to draw a modelling plan and sketches to support their answer.

Homework 20 - Computer Graphics

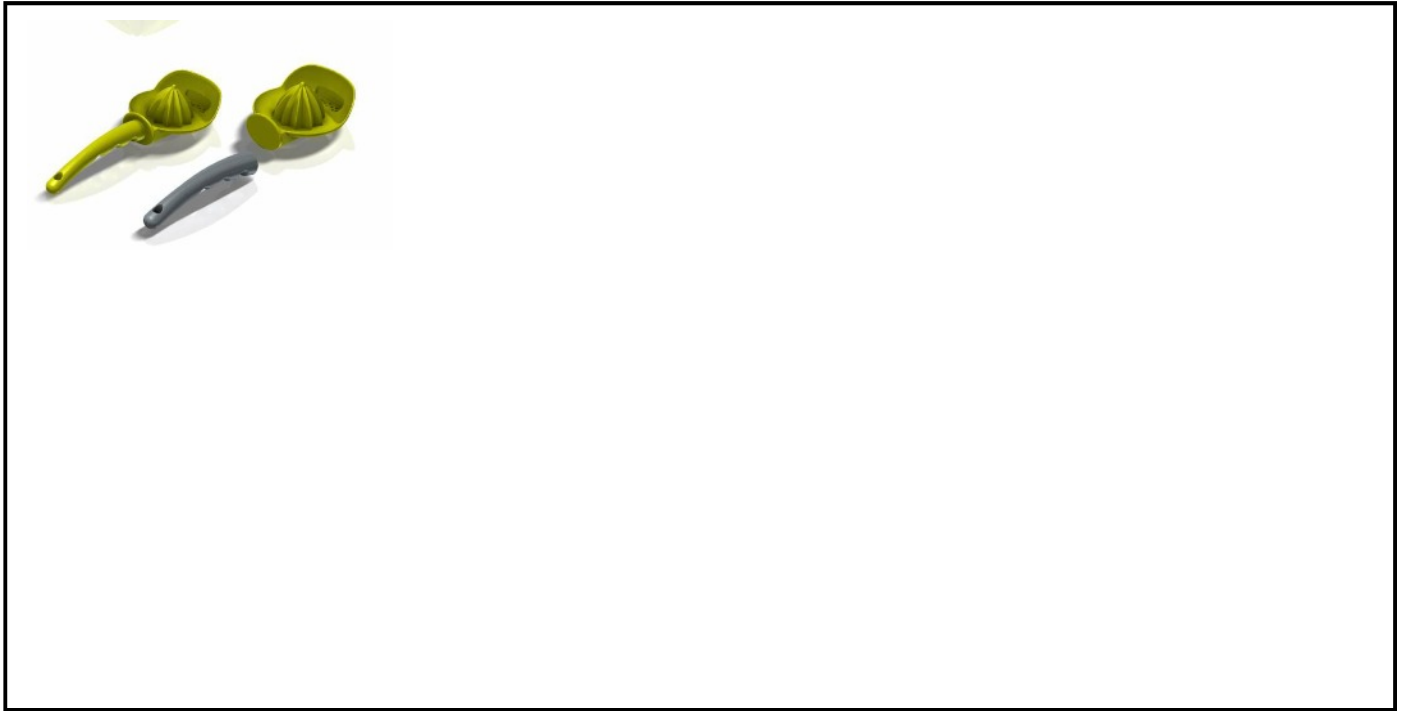
Due Date - _____

Mark

/8

It was then decided that the juicer head and handle should be manufactured as two separate components.

1. Describe, using a “topdown” approach, the techniques used to create the two component parts from the solid model.



2. The two parts need to be adapted to allow them to join together easily. Produce a 3D modelling plan to show how the handle and juicer head can be adapted so that they can be joined together easily.



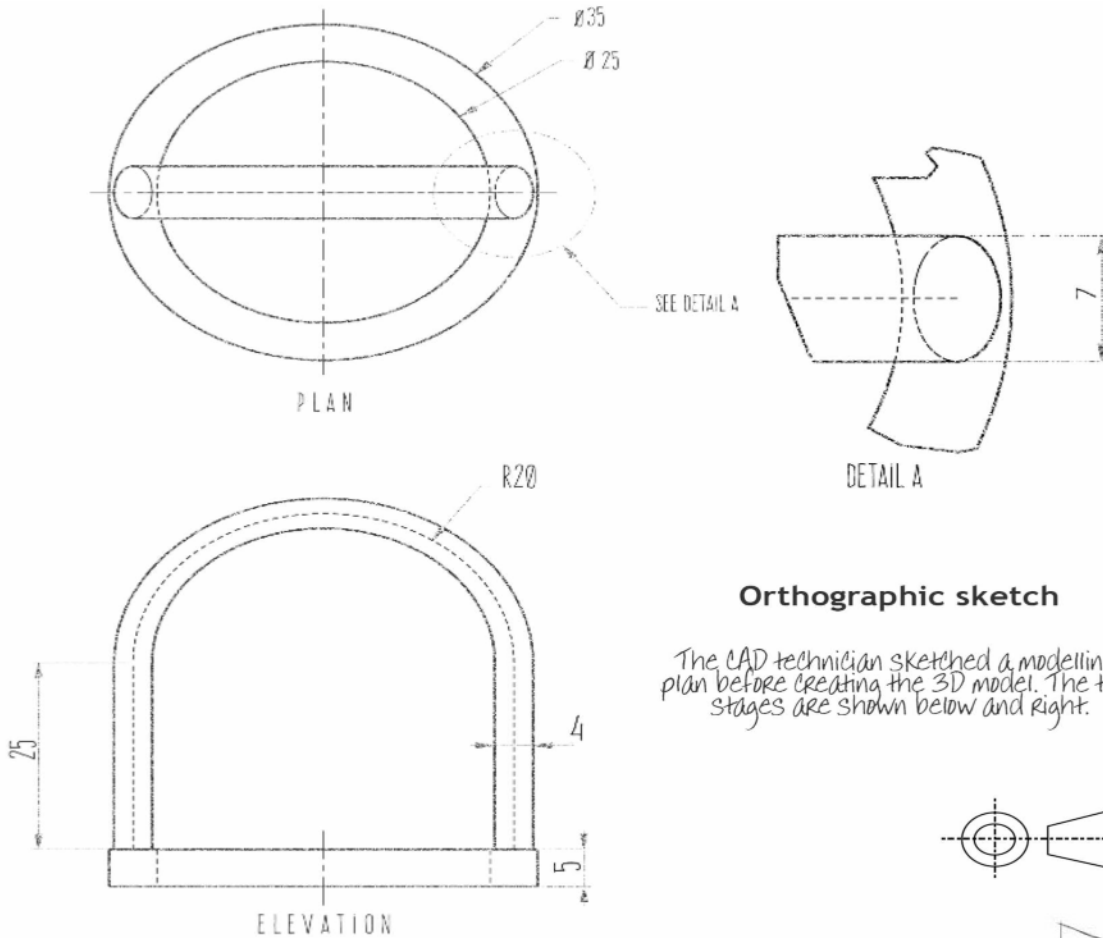
Homework 21 - Computer Graphics

Due Date - _____

Mark

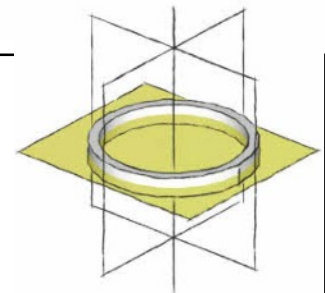
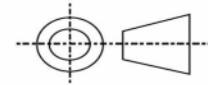
/4

The sketches below were used by a CAD technician to create a 3D model of a sports bottle handle. 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 two stages are shown below and right.



1. Describe the 3D CAD modelling techniques required to produce the bottom part. Make reference to the dimensions given in the production drawing. You may use sketches to support your answer.

Homework 22 - Computer Graphics

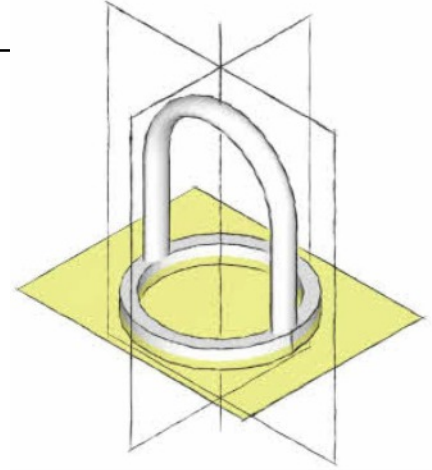
Due Date - _____

Mark

/4

Make reference to the preliminary sketches on Homework 21.

1. Describe the 3D CAD modelling techniques required to produce the curved part on the lid. Make reference to the dimensions given in the production drawing. You may use sketches to support your answer.



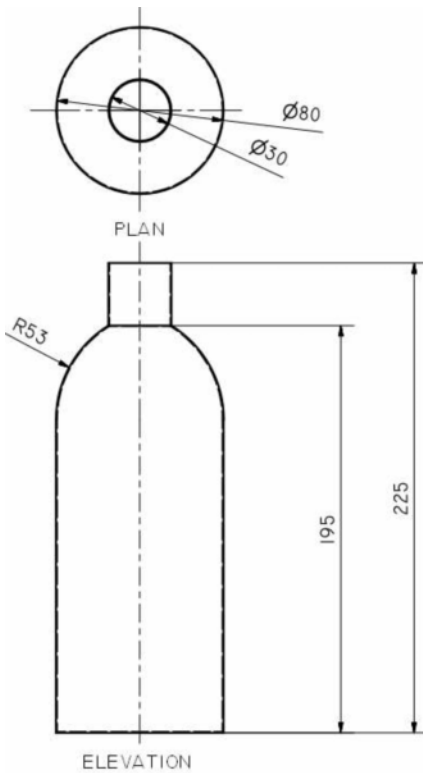
Homework 23 - Computer Graphics

Due Date - _____

Mark

/5

Describe the 3D CAD modelling techniques required to produce the bottle. Make reference to the dimensions given in the production drawing. You may use sketches to support your answer.



WALL THICKNESS = 0.5MM

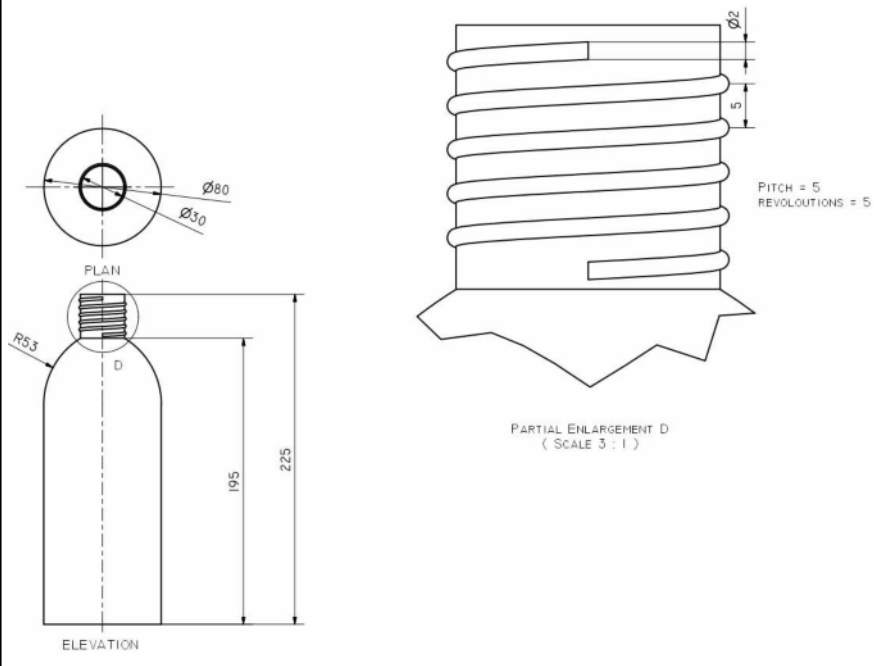
Homework 24 - Computer Graphics

Due Date - _____

Mark

/5

Refer to the Bottle on the previous page. Describe the 3D CAD modelling techniques required to produce the screw top feature as shown.. Make reference to the dimensions given in the production drawing. You may use sketches to support your answer.



Identify and justify at least 10 of all the DTP features in the following magazine article.

Body CASE STUDY

I survived A BRAIN TUMOUR

Lorraine Kemble explains how she's fought her way back to health after suffering from a huge brain tumour, and is using her experience to help others



"I was born a healthy baby but at eight months old I was ill for a few weeks with flu-like symptoms."

Soon afterwards, while I was attempting to crawl and then walk, it was noticed that I was not moving around properly and had developed spasticity in my right side.

At 10 years old I started to suffer from excruciatingly painful headaches which were misdiagnosed as migraines; these continued, with increasing severity, throughout my teens.

Finally, at the age of 22, I suffered another 'migraine attack' which went on for weeks. I could not swallow and my weight dropped dramatically, so I was hospitalised to be treated for severe dehydration. A routine CT scan showed that, in fact, I had a large tumour in the roof of the fourth ventricle of my brain and I needed immediate surgery to remove it because it was pressing on vital nerves in my brain. The first operation went wrong because the anaesthetist 'forgot' to put a monitor on my index finger (he consequently lost his job at the hospital). I went into cardiac arrest and the operation had to be terminated very rapidly.

At first, the doctors thought that they had removed enough of the tumour but its

size was disguised by the heavy steroids I was taking. Very soon afterwards, I contracted bacterial meningitis.

As soon as I was sufficiently recovered, a second – much more major – operation was performed to try and remove the rest of the tumour, which the doctors described as being 'the size of a grapefruit'.

Tissue from the cerebellum (the area of the brain that is responsible for balance and speech) had been disturbed, and, as a result, I was left unable to walk, talk, sit up or generally do anything much at all. I had to learn to use different pathways in my

For me, this meant consistently tracing, following and imagining a figure-of-eight – both with my hands and by walking – and was fundamental in the re-mapping of my neural pathways. The symbol of the figure-of-eight is representative of the way the brain functions – in three dimensions.

Hydrotherapy was also vital in aiding my walking, because water offers balance and the reassurance you cannot fall over. As the water was warm, this was particularly helpful in aiding the working of my various muscles.

"I couldn't walk, talk, sit up or generally do much at all"

brain to re-train myself in all day-to-day activities. I approached this massive challenge much as if I was training to compete in a championship race.

Alternative therapies

Vital to my recovery were alternative therapies. Educational kinesiology was fundamental in helping me to learn to walk and talk again. It draws on basic anatomy in teaching that movement occurs along three planes of motion; each plane describing the axis along which an action is performed.

Moving forward

Alternative therapies have helped me so much since on my path to recovery. Cranial osteopathy improved the circulation of my cerebro-spinal fluid, helping the muscular-skeletal imbalances around my neck.

After my treatment, reiki helped enormously in terms of me finding inner peace and harmony. It's an ongoing process, and I'm a practitioner now too, so I give to others. Reiki means spiritually guided life force energy, and it's beautifully simple. When healing someone else I'm just a conductor; but I'm in a very responsible position because I have to channel the energy properly to look after my clients.

Tui Na therapy continues to alleviate the spasticity affecting my right arm and leg; techniques are used to articulate the affected joints and keep the tissues as healthy as possible. There is also considerable tension that develops in other areas of my body as a result of my altered gait and over-dependence on my left side. Agan, tui na excels at delivering focused, strong, and yet relaxed physical therapy in order to alleviate the tension build-up.

REACH YOUR POTENTIAL

In more recent years, I have begun to really sense that I was meant to survive to have a purpose: to be a teacher, which is what I always wanted to be and, in fact, previously had trained as, and so educate other people as well as myself. Consequently, as a result of these struggles, I very much wanted to transform my negative experiences into positive ones. To that end I have created a website and it is my dream that this will bring inspiration and hope to others.

If I could realise the goal of offering hope to other people in a physical situation similar to mine, it would really be so fulfilling for me to know that I was doing something truly worthwhile. The way I see it, is that most of us are affected by physical or emotional suffering in one way or another.

FOR MORE INFO

To find out more about Lorraine and her People with Potential project, visit peoplewithpotential.org

NATURAL HEALTH 53

Identify and justify at least 10 of all the DTP features in the following magazine article.

Liz Hon

A MIRACLE KEEPS YOU PRETTY EVERYDAY

THE NEW RADICAL Get The COVER LOOK

The New Evolution to Beauty

porttitor et tristique ut, venenatis sed massa. Aliquam gravida risus vestibulum risus laoreet id pharetra justo elementum. Morbi quis mattis velit Donec sit amet nisi at lorem pulvinar dignissim. Nulla imperdiet odio lectus, sit amet

accumsan gravida nunc quis molestie. Aliquam rhoncus enim lacus. Aenean aliquet felis feugiat leo eleifend ultricies. Etiam condimentum felis in odio lacinia semper. Donec nec leo vitae velit dapibus venenatis a luctus ligula. Praesent dapibus facilisis est, sit amet sodales elit fringilla ac. Nulla id lorem condimentum ligula vestibulum congue ut a lorem. Aenean hendrerit nisl in eros fermentum semper. Integer et ante purus. Phasellus tellus nisi.

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec odio orci, fringilla sed nuctor eu, cursus non nisl. Cras odio.

>Lorem ipsum dolor sit amet, consectetur adipiscing elit.

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec varius.

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec varius.

Like a beauty supplement for your skin.

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Identify and justify at least 10 of all the DTP features in the following magazine article.

What'd I Say

BY JIM HYNES



Where Are the Girls with Guitars?

Where are the girls
Why aren't they playin' that screamin' guitar
...You need a real live woman
To play that guitar yeah

"Where Are the Girls with Guitars?"
—Laurie Morvan

Take notice of this uprising of female lead blues guitarists. Bonnie Raitt to Sue Foley, Rory Block, Deborah Coleman and others paved the way, but now even more feisty gals are wielding some mean axes and kicking down doors. Among them, Dani Wilde and Joanne Shaw Taylor hail from England, Fiona Boyes from Australia, Ana Popovic from Serbia and both Laurie Morvan and Laura Chavez from Candye Kane's band from southern California.

Club owners who felt Morvan was a mere novelty item taught her it takes time for a female blues guitarist to be taken seriously, but this year her tour extended further east than ever before. Most of these ladies truly sense the tide is changing.

Dani Wilde's *Heal My Blues* was released in Europe last year, but just this past August in the States. She has eight originals and three covers, featuring her brother, Will, on harmonica. Dani's got the guitar chops, but her powerful, gutsy vocals will grab even more of your attention. Joanne Shaw Taylor's debut, *White Sugar*, demonstrates her already masterful guitar style. She sings in a softer, sultrier voice. Backed by a Memphis rhythm section and handled by ace producer Jim Gaines, Taylor gives herself ample room to stretch out, especially on "Time Has Come" and "Blackest Day."

Ana Popovic has played the European scene almost a decade longer than either

Dani or Joanne. On her second US release, *Blind for Love*, she mines similar territory as 2007's *Still Making History*, mixing blues with jazz, rock and funk. With producer Mark Dearnley (AC/DC, Paul McCartney) aboard, she is progressing toward a pop sound. The funky, acoustic "Steal Me Away" and the blistering electric "Blues for M," however, speak to her deep blues roots.

Add to these rising stars the blazing guitar of Laura Chavez, whom Candye Kane recruited for her band upon Sue Foley's recommendation. Chavez ably supports the ever ebullient, enthusiastic Kane on both Ruf's *Blues Caravan 2008: Guitars & Feathers* release and Candye's latest studio CD, *Superhero*.

Fire It Up! couldn't be a more appropriate title for Laurie Morvan's fourth release, who shows continued maturity as both a guitarist and songwriter. It's replete with clever sexual lines ("I'm gonna put up my tenderloins and let you fire up my grill") and she continues her crusade for the girls with guitars in "Livin' in a Man's World."

Fiona Boyes first attracted stateside attention through the Blues Foundation's International Blues Challenge. With several Blues Award nominations and four excellent studio albums, her latest, *Blues Woman*, showcases her amazing finger-picking style, her passionate vocals and both electric and acoustic command of



Above: Dani Wilde, below: Laurie Morvan



several blues idioms. With guests Marcia Ball, Pinetop Perkins and Watermelon Slim aboard, need we say more? Come on guys. Put your silly excuses aside and let these women fire you up. ♪

DANI WILDE: CLARE PEPPER/LAURIE MORVAN: BOB HARRIS

Homework 28 - Design Elements and Principles

Due Date - _____

Mark

/8



Look at the poster above. Identify where each feature has been used and justify the use:

Shape

Repetition

Alignment

Unity

Homework 29 - Design Elements and Principles

Due Date - _____

Mark

/12

what's on...

Your monthly guide to the UK's premier entertainment venue

Events at The O₂

PARTY LIKE A V.I.P. IN THE O2'S BLUEROOM!
If you're heading to a show at The O₂, 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 O2 customers per night. If you feel BLUEROOM to 60202 while you're at The O₂, 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 pub isn't an O2 as anyone who bags a blueroom ticket can bring three friends with them!
The bar is filled with comfy sofas, chilled-out lighting, a playlist with thousands of songs and screens showing an ever-changing array of wallpaper. Get 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 O₂ 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 O2 customers when you visit The O₂. Make sure that you text BLUEROOM to 60202 and don't miss out!

BLUEROOM: BAR THEMES
O2 Goes 80s
Over the top discofunk, cherry tunes and classic arcade games!
O2 Goes Disco
Shake the blueroom with your favourite and try our One Cocktails.
O2 Rock Takeover
From rock classics to modern anthems, we'll be playing them all at the indie Disco.
O2 Fan Zone
Get your poster racing with a host of great games, both as football, quiz and dig-starts.

BOOK NOW
The O2
Peninsula Square,
London, SE10 0DR
T 0844 858 0202
theo2.co.uk/
inside/book-now

PRIORITY TICKETS
For a full list of what's on at The O₂, text INFO to 60202. As an O₂ customer you can get priority tickets to The O₂ - visit 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.

THIS MONTH
Suzanne Vega
19 August
Vega's chief arranger/producer Zaki Hawala shares the latest exciting discussion at the lecture in indigo.

NEXT MONTH
O2 Government
5 September
Now is the time to book for an evening of intense basketball action as Great Britain takes on the Czech Republic at The O₂. An absolute must for fans of this thrill-a-minute sport.

COMING SOON
James Blunt
14 October
This final night of James Blunt's All The Love Shows is the one you cannot be sure 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)

Paper edge

1. Identify and describe three Design Principles

I) _____

Description

II) _____

Description

III) _____

Description

2. Identify and describe three Design Elements

I) _____

Description

II) _____

Description

III) _____

Description

1. The promotional layout shown below is to attract customers to a new product.



Explain how the graphic designer has used typeface, colour and choice of images to attract customers.



Explain how the graphic designer has created unity, balance, movement and emphasis.

4

Name the DTP edits that have been used to create the features shown above.

4

A. (Badge) _____

B. (Car graphic) _____

C. (Font) _____

D.(Background) _____

The following is an article taken from a well known music publication about a female celebrity.



Describe the effects the graphic designer has created by using the following.

A) Colour

2

B) Typeface

2

C) White Space

2

The following is an article taken from a well known Rock music publication.



Describe how the designer has used Proportion in the layout

4

Why has the graphic designer chosen to use a Reverse for the body text.

2



Describe how the designer has used the headline to connect with a target audience and to create visual contrast. 2

Explain the ways in which the designer has used DTP techniques to create unity in the layout 2

How has the designer used line to enhance the layout? 2
