Homework 1

Q1. For each of the following lines name each and explain where it would be used on a drawing.

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Q2. Explain the purpose of applying tolerances to working or engineering drawings

Q4. Tolerances can be applied to a drawing using two methods, what are these methods?

Q5. Using your knowledge of tolerances, apply the following tolerances to the drawing shown below.

Q6. Angular dimension of 30mm applied to the web section, tolerance of plus or minus 0.10mm.
Diameter of hole on plan of 10mm, tolerance of plus or minus 0.05mm.
Radius of large circle on right side of 20mm, tolerance of plus or minus 0.10mm.
Q21. Please refer to the “Events at the O2” leaflet

Identify and describe four Design Elements that make an impact to the reader

Elements 1
Description

Elements 2
Description

Elements 3
Description

Elements 4
Description
The graphics for the construction of a project fall into 3 main types: Preliminary, Production and Promotional.

Q7. State from the list above which the sketch shown falls into.

Describe the purpose of this type of graphic.

What will be the next stage in the process for the designer?

What will be the next stage in the process for the designer?
Homework 2

Q8. Describe fully the following illustration and presentation terms.

(a) Colour Gradients

(b) Text Highlight

(c) Make Up

(d) Import

(e) Centre Spread

(f) Banner

Q9. State three factors which influence the choice of scale for a drawing.

________________________________________

________________________________________

________________________________________
Q10. An incomplete rectangle has been drawn using a CAD package. Sketch on the drawing the effects of applying the following CAD commands.

(a) Fillet at A.
(b) Chamfer at B.
(c) Mirror the drawing about X-X.
(d) Hatch the mirrored drawing.
(e) In the space below fully explain the advantages of using computer aided drawing over traditional board work.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Q11. Using the desktop publication shown below, complete the table by using a ruler to measure the various features of the DTP publication.

(ii) On the page annotate two areas of "White Space".

<table>
<thead>
<tr>
<th>Layout Feature</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Margin</td>
<td></td>
</tr>
<tr>
<td>Gutter Width</td>
<td></td>
</tr>
<tr>
<td>Column Width</td>
<td></td>
</tr>
<tr>
<td>Right Margin</td>
<td></td>
</tr>
<tr>
<td>Headline Height</td>
<td></td>
</tr>
<tr>
<td>Graphic Width</td>
<td></td>
</tr>
</tbody>
</table>
Q12. State the DTP term for the deliberately created clear area to the around the guitar on the left hand side.

Q13. State the DTP term for the page number at the bottom right of the publication.

Q14. State the DTP term for the orientation of this desktop publication

Q15. Describe the purpose of using a caption

Q16. State the DTP term for the large “Guitar Review” at the top left of the page.

Q17. DTP is used extensively in promotional graphics. Name at least 3 types of software package DTP publications are produced on.
   1. Microsoft Publisher
   2.__________________
   3.__________________
   4.__________________

Q18. Explain the difference between the scales 1:2 & 2:1
Homework 3

Q19 Please refer to the "Events at the O2" leaflet (overleaf)

Identify and describe three Design Principles that make an impact to the reader

**Principle 1**
Description

**Principle 2**
Description

**Principle 3**
Description

Q20 Please refer to the "Events at the O2" leaflet (overleaf)

Annotate the leaflet to show

Footer
Bleed
Headline
Gutter
Reverse Text
Rule
Homework 4

Q22. 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:

Design Principle 2 .................................................................
Description:

Design Principle 3 .................................................................
Description:

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:
Q23. 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:

Design Principle 2 .................................................................
Description:

Design Principle 3 .................................................................
Description:

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:

Design Element 2 .................................................................
Description:

Design Element 3 .................................................................
Description:
Homework 5

Q 24. There are three main types of balance used in DTP publications. (AH 2013). In the space below, state and sketch two DTP balances.

(a) Balance: .................................................................

(b) Balance: .................................................................
Q25. 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)

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.
Q26. 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:

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

(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:
Q27. There are three stages in planning a DTP document prior to the production of the final electronic version. Research is the first stage.

State two further stages in planning a DTP document.

Stage ..............................................................
Stage ..............................................................

Part of the planning stage is shown above.

State the page orientation used in the document above.

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

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

(i) ....................................................... (ii) ......................................................
(iii) ...................................................... (iv) ......................................................
(v) ....................................................... (vi) ......................................................

Answer on page 104 & 29
Homework 6

Q28. Name the three types of sectional drawings shown below.

1.

2.

3.

Q29. Identify the parts of the sectioned drawing shown opposite.

(A) ___________

(B) ___________

(C) ___________

(D) ___________

(E) ___________

Answer on page 15
Q30. Name two devices that can be used to input photographs to a computer's memory for use in a DTP document.

(a)  

(b)  

Q31. Compare the benefits of using each device.

(a)  

(b)  

Q32. Describe the process of transferring CAD drawings to a DTP document.

Q33. State the fastest method of electronically sending a DTP document accurately over a distance.

---

Q34. What piece of computer "hardware" allows this information to be sent electronically?

M---

Q35. Write a short statement describing each of the following processes associated with computer graphics:

(a) Copy and Paste  

(b) Cut and Paste
Q36. In the box below, draw a series of "thumbnail sketches" for your new book "My autobiography." These sketches should show a variety of ideas of how you plan your front cover, back cover and spine to look. Be as creative as possible!

**Thumbnails**
Q37. In the box below, complete your section of thumbnail sketches by adding a "visual" (Working Rough) This will be your best design from your thumbnail sketches. A good quality drawing is required.
Homework 7

Q38. **Block plans, site plans and floor plans** are all building type plans.

(i) State an appropriate scale for a site plan _______________

(ii) A sketch (not to scale) of a site plan showing a building, boundary and roads is given. List four other features which could be included on this plan.

Q39. A production drawing is used in the manufacture of an object. State four pieces of information required on the drawing for the accurate manufacture of the object.

_______________________________________________
_______________________________________________
_______________________________________________
_______________________________________________

Answer on page 10 & 14
Q40. Sketch what happens to the given graphic when the CAD command is applied to it.

(a) **Rotate (90°)**

(a) **Scale (down)**

(a) **Hatch**

(a) **Copy**

(a) **Mirror**

(a) **Zoom (out)**

Answer on page 22
Q41. State two benefits of using the CAD feature, Library.

(a) Advantage 1 ____________________________

______________________________

______________________________

(b) Advantage 2 ____________________________

______________________________

______________________________

Q42. An Architect wishes to draw the Floor Plan of a house. He has a choice of two scales.

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

Scale 1 ________________ Scale 2 ________________

(b) State two reasons which might influence his choice.

Reason 1 ____________________________

______________________________

Reason 2 ____________________________

______________________________

Q43. Name each of the British Standards symbols shown below.

Answer on page 22

Answer on page 21 & 10
Q44. Orthographic views of a drawing board bracket are given.

With the aid of sketches, explain how a 3D solid model of the bracket can be produced.
Homework 8

Q45. Describe by means of a sketch, the term Text Wrap.

SKETCH

Q46. Describe each of the following DTP terms, using a sketch if required.

(a) Footer

(b) Column rule

(c) Gutter

(d) Box
Q47. A DTP document is planned in stages. State the stage which follows Research.

Stage ________________________________

Q48. Describe what is meant by dimensional tolerancing.

_____________________________________

_____________________________________

_____________________________________

Q49. State two reasons why tolerances are an important feature in manufacturing.

(a) Reason 1 _____________________________________________

_____________________________________________________

(b) Reason 2 _____________________________________________

_____________________________________________________

Q50. Show a horizontal linear dimension of 30mm with a tolerance of +0.15 and -0.25 applied directly to the given graphic, using a recommended method.

[Diagram of a horizontal line with a tolerance notations]
Q51. "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
Q52. The component below is drawn to a scale of 1:10. Dimension the drawing using British Standards, to include.

(a) The overall length

(b) The overall height

(c) The Radius

Q53. Preliminary, Production and Promotional graphics are used extensively in the Engineering, Construction and Consumer industries.

Describe the Purpose of each type of graphic and state one example of a graphic of that type.

(a) Preliminary

Purpose _________________________________

Example of graphic ____________________________

(b) Production

Purpose _________________________________

Example of graphic ____________________________

(c) Promotional

Purpose _________________________________

Example of graphic ____________________________
Homework 9

Q54. State the name of the British Standard symbol shown below

(a) 
[Diagram of a symbol]
Name ______________________________

(b) State the name of the drawing where such a symbol would be found.
Name ______________________________

(c) State the two types of page orientation.
Orientation 1 _____________  Orientation 2 _____________

Q55. A single button is positioned on the elevation of a calculator. State the single CAD command apart from "Multiple Copy" that will create the eight buttons.

Command ______________________________

Q56. State the CAD feature that would allow the button to be used in any future design.
Feature ______________________________
Q57. Shown below and over the page are stages in drawing an object. State the CAD command that is indicated at each stage.

Command _____________

Command _____________

Command _____________

Command _____________

Answer on page 22
Q58. Two architects exchange CAD drawings electronically by attaching them to an e-mail. 
   (a) State the piece of Hardware required for each computer to allow the exchange of drawings.

   Hardware ________________________________

   (b) State the requirement that each architect must have to allow them to open and edit each others drawings.

   Requirement ______________________________

Q59. State the type of view shown in Drawing 1.

   ________________________________

Q60. State the type of view shown in Drawing 2.

   ________________________________

Q61. State the type of view produced by the cutting plane in Drawing 3.

   ________________________________
Q62. The British Standard description of three line types are given. 

State the British Standard application for each of the indicated line types X, Y & Z.

Line type X Description: Dashed thin

Application

________________________________________

Line type Y Description: Continuous thin with zig zags

Application

________________________________________

Line type Z Description: Chain thin, thick at ends and changes of direction

Application

________________________________________

Q63. Colour Gradient, Tonal Scale & Highlights are three effects that could be used when rendering an illustrations.

Describe the effect produced by each term.

Gradient

________________________________________

Tonal Scale

________________________________________

Highlights

________________________________________
Homework 10

Q64. Symmetrical and Asymmetrical page layouts are found in DTP documents.

In the space below, use a sketch to illustrate the difference in these layouts.

In the space below, sketch and label a page with the following DTP terms.

Text runaround (wrap)
Bleed
Rule
Caption
Indent
Q65. An example of a desktop published sheet is shown above

(a) Name the DTP effect indicated by A.

A __________________ 

(b) State each of the DTP terms for each of the features B - E.

B __________________ C __________________

D __________________ E __________________
Q66. Two methods of dimensioning the same object are shown below. State the British Standard term for each method.

Method 1_________________ Method 2_________________

Q67. In order to manufacture this object accurately, functional dimensions have been added. Explain why Method 1 would be preferable.
Q68. State one reason for the use of British Standards conventions on drawings.

_________________________________________________

Q69. State the British Standard convention and features indicated on the following graphic.

Q70. Hatching is used to show the part of an object that has been sliced by an imaginary cutting plane.

(a) State the type of sectional view produced by the cutting plane in Drawing 1.

(b) State the type of sectional view shown in Drawing 2.

(c) State the type of sectional view shown in Drawing 3.
Q71. A pictorial view of part of a dart is shown below. Six sizes are given.

(a) Using the above drawing, sketch, to British Standards conventions, the six given sizes on the orthographic view below.

(b) Sketch on the orthographic view above the British Standard convention to indicate the flat surface on the barrel.
Homework 11

Q72. In Illustration and presentation, the arrangement of elements within a layout, how they relate to each other and what mood or feeling the layout conveys is termed balance.

(a) State the two types of balance shown.

(b) __________________

(c) State which page orientation has been used.

Q73. Describe each of the following lettering terms.

Font________________________________________

________________________________________

Italic type__________________________________

________________________________________

Serif_______________________________________

________________________________________
Q74. The word *highlight* is used in both word processing and illustration and presentation.

Explain the difference by describing what it means in each case.

*Highlight* in Word processing __________________________

_________________________________________________

*Highlight* in Illustration & Presentation ___________________

_________________________________________________

Q75. The question and solution for an examination were drawn using a CAD package.

State the CAD feature which enables the solution to be revealed or concealed.

(feature) __________________________

Drawn by Tracy Whitfield 2007

State the CAD feature which enables the solution to be revealed or concealed.
Q76. State the CAD feature which enables the solution to be revealed or concealed.

Feature ________________________________

Q77. State two other types of drawing used in construction.

Drawing 1 ________________________________

Drawing 2 ________________________________

Q78. State two advantages gained by using the feature stated in the previous question.

Advantage ________________________________

Q79. State three CAD portable storage devices other than hard drives or floppy drives.

________________________________________

________________________________________

________________________________________
Q80. When producing a DTP document it is important to develop ideas prior to producing the final article. There are three stages in this process, the first and second are shown below, and are usually produced by freehand, the third is the Presentation visuals.

State the stage indicated by each sheet.

Sheet 1 - Stage ________________________________

Sheet 2 - Stage ________________________________

Q81. State the DTP term for each of the lettered elements on Sheet 2

A ________________  B ________________
C ________________  D ________________
E ________________  F ________________
Homework 12

Q82. The following features could be used when producing a computer rendered graphic using CAG software.

Explain each of the following features.

Colour fill _____________________________________
_____________________________________

Colour gradient _________________________________
_____________________________________

Auto tracing _________________________________
_____________________________________

Q83. An incomplete chart used by a graphics company is shown below.

(a) From the information given indicate on the chart, by shading the relevant areas the time the following processes occur.
Q 84 (continued)

(ii) **CAD exploded isometric** drawing requires 2 weeks and is completed 1 week after the “CAD orthographic drawing” is completed.

(ii) **DTP 3 fold leaflet** requires 5 weeks and commences midway through the “sales poster”.

Q85. Section 1, Section 2 & Section 3 in the chart are stages normally referred to as “the three P’s”.

Section 1

Section 2

Section 3

Q86. State the type of chart and describe its main function.

Chart Type

Function
Q87. Two plans from the same construction project are shown below. They are not to scale.

State, under each plan, the appropriate
(i) plan type
(ii) scale

(i) Plan A _______________  (i) Plan B _______________
(ii) Scale _______________  (ii) Scale _______________

Q88. The graphics for a construction project fall into 3 main types: Preliminary, Production and Promotional.

(i) State, from the list above, the type of graphic shown.

__________________

(ii) Describe the purpose of this type of graphic.

__________________

__________________
Q89. Two elevations and a pictorial view of a solid hand weight are given.

(i) On the elevation X, sketch a revolved section of the handle.

(ii) On the elevation Y, sketch a removed section of the handle.

Q90. In Engineering drawing practice, state two parts which are not normally sectioned when a cutting plane passes longitudinally through them.

Part 1

Part 2
Q91. State the DTP term for each of the descriptions (i-vi).

(i) White text on a black background

(ii) A horizontal line placed below a headline

(iii) Text describing a graphic, usually placed below it.

(iv) The space separating adjacent columns of text

(v) A page layout arranged with its widest side horizontal.

(vi) Text at the bottom of a page repeated throughout the document.

Q92. Describe one purpose of thumbnail sketch layouts

_______________________________________________

_______________________________________________

Q93. In text alignment, describe an advantage and disadvantage of Full justification.

Advantage

_______________________________________________

_______________________________________________

Disadvantage

_______________________________________________

_______________________________________________

Q94. State two other types of text alignment.

(i) ________________     (ii) _________________

Answer on page 104 & 129
Homework 13

Drawings and Sketches including Preliminary, Production and Promotional Graphics are generally categorised as the 3P’s.

Q95 Look at the graphics shown below and decide

1. What category of graphic preliminary, production or promotional graphics they fit into

2. What specific type of sketch or drawing they are

3. Whether they are freehand sketches, sketches, or drawings (your answer should include the word 'line' or 'rendered')

The first one has been done for you

1. Preliminary

2. Orthographic sketch (elevation)

3. Freehand (line with some rendering)
Homework 14
Modelling Plans
Water flume

A production drawing and pictorial render showing a section of a water flume is shown below. With reference to correct dimensions complete question 96 - 98.

Wall thickness 10mm
Q96. In the space provided below, describe and sketch the modelling plan that would have been created prior to the production of this part. Only explain the process up until the point shown.
Q97 A plug has been designed to be used when the flume is not in use. State an appropriate diameter for this part (refer to the production drawing on page 54).

Q98. Production drawings for the flume plug are shown below. With reference to appropriate dimensions, describe and sketch a modelling plan for producing the handle of the plug. This was completed using only extrusions and fillets. You do not need to describe the process for completing the fillets, only extrusions.