



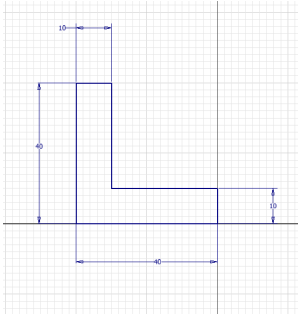
Calderglen High School  
Technology Department

# CAD Modelling Homework

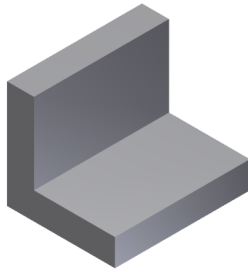


Homework to be completed on time  
and returned in homework jotter.

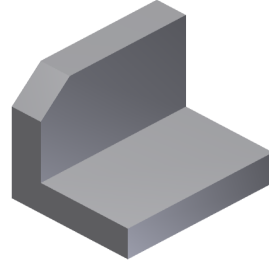
Below is an engineering component designed using Autodesk Inventor.



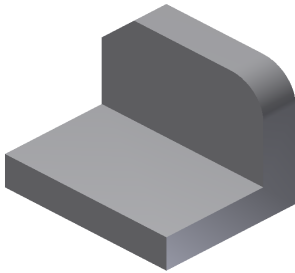
1



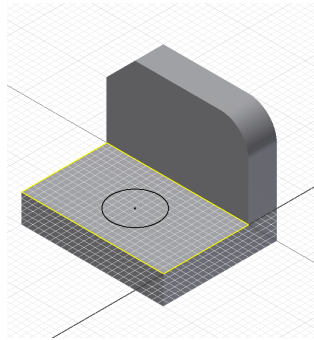
2



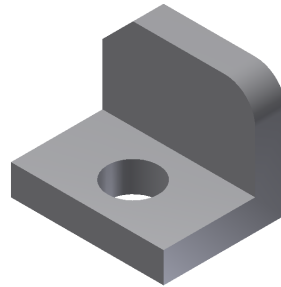
3



4



5



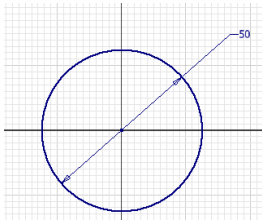
6

Look at the screenshots & identify the tool used to achieve the result at each stage

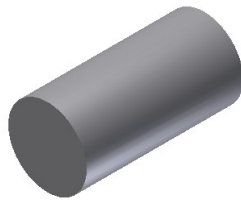
- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

2

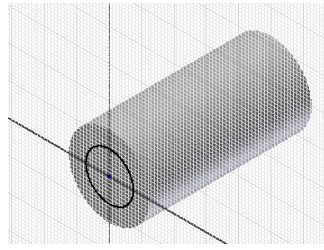
Below is an engineering component designed using Autodesk Inventor.



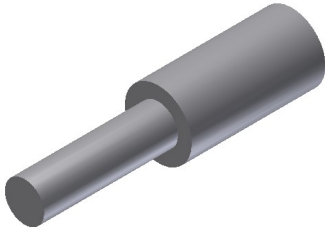
1



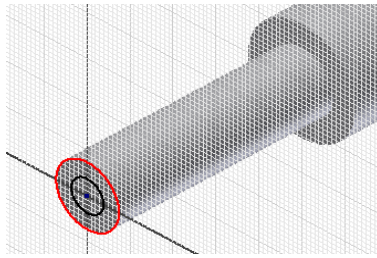
2



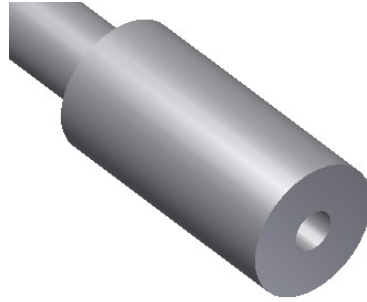
3



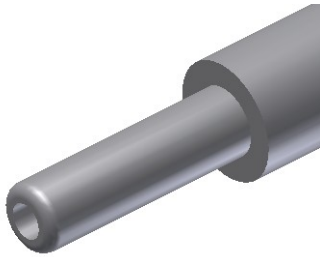
4



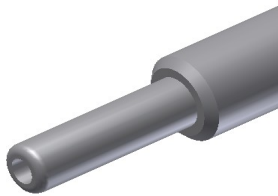
5



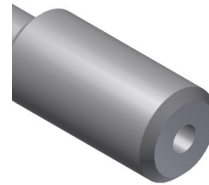
6



7



8



9

Look at the screenshots & identify the tool used to achieve the result at each stage.

1)

2)

3)

4)

5)

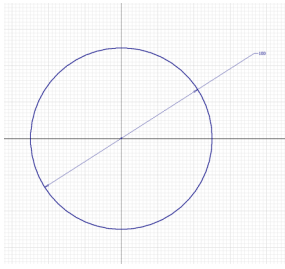
6)

7)

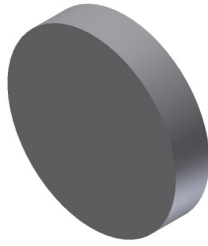
8)

9)

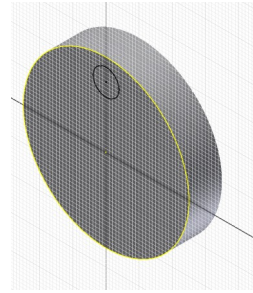
3 Below is an engineering component designed using Autodesk Inventor.



1



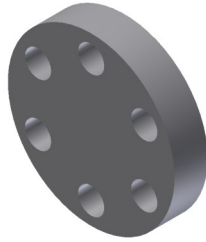
2



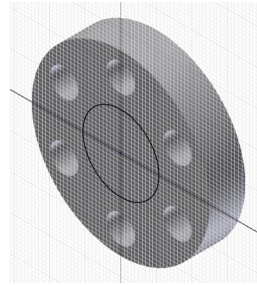
3



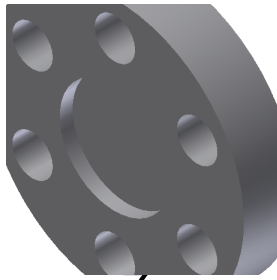
4



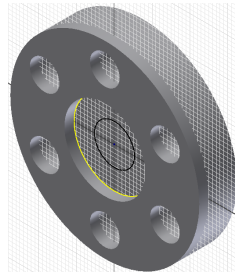
5



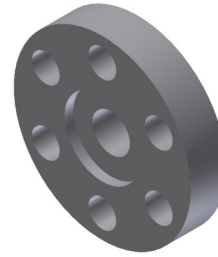
6



7



8

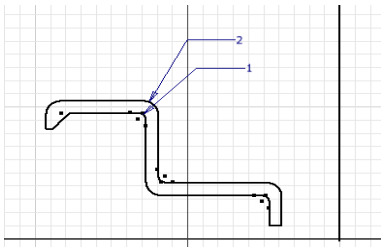


9

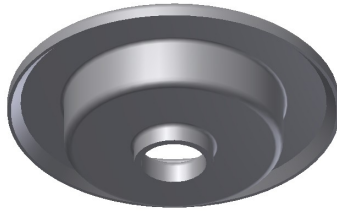
Look at the screenshots & identify the tool used to achieve the result at each stage.

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)

4 Below is an engineering component designed using Autodesk Inventor.



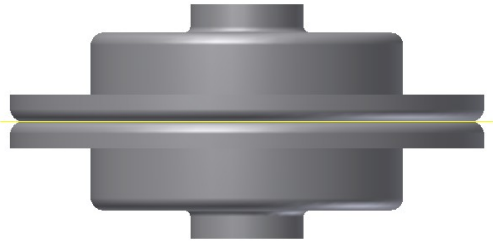
1



2



3



4

Look at the screenshots & identify the tool used to achieve the result at each stage.

1)

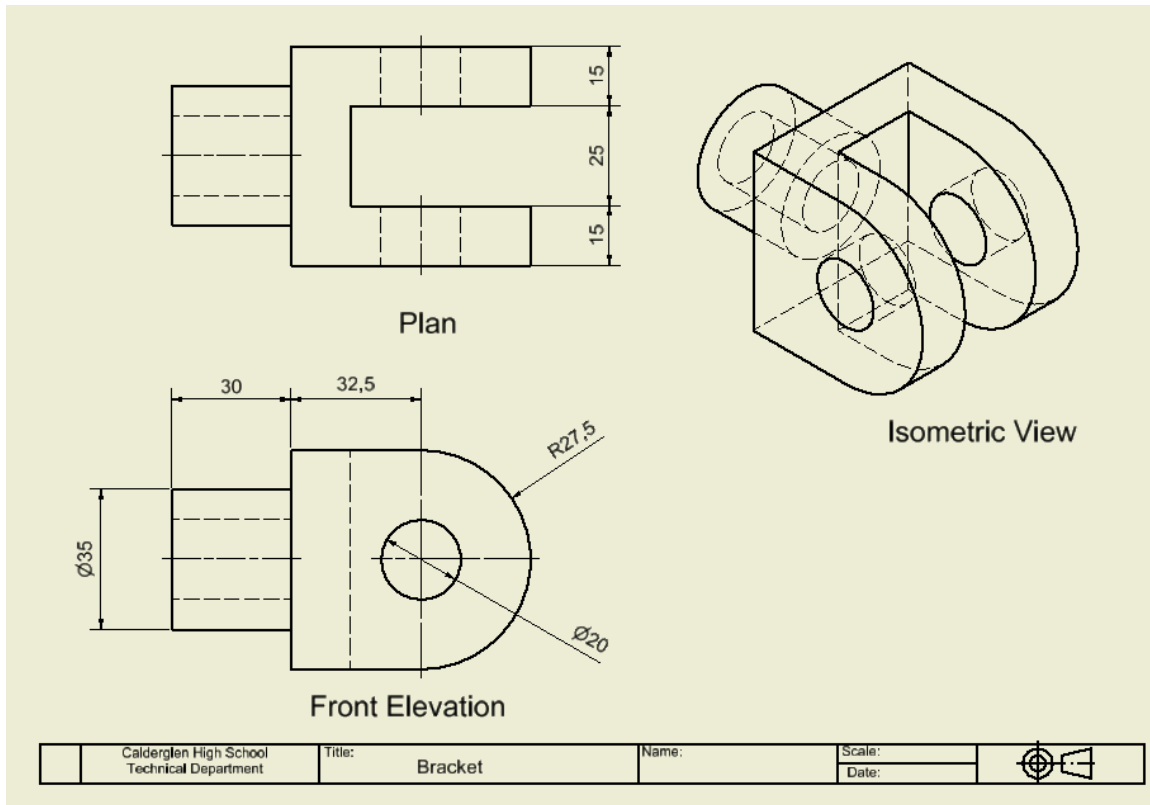
2)

3)

4)

5) What is the purpose of the vertical line in slide 1

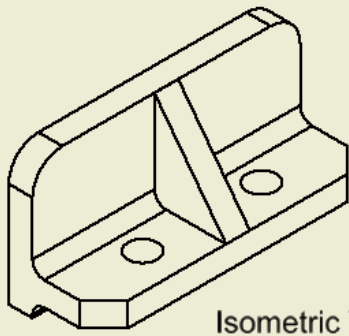
## Engineering Drawing of Pulley Bracket



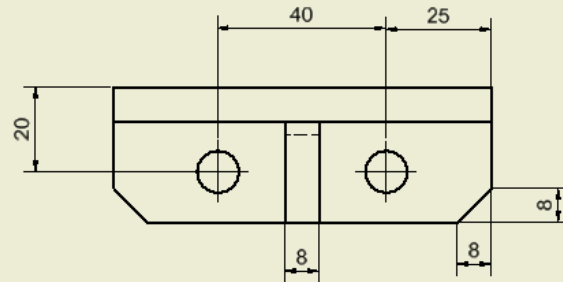
### Modelling stages using Autodesk Inventor

<p><b>Stage 1</b></p>	<p><b>Stage 2</b></p>	<p><b>Stage 3</b></p>	<p><b>Stage 4</b></p>
<p><b>Stage 5</b></p>	<p><b>Stage 6</b></p> <p>A bracket is shown in the Engineering Drawing above.</p> <p>The stages required to model the bracket are shown in the table.</p> <p>Stage I was drawn using the 3D modelling software and using the sizes shown in the Engineering drawing.</p> <p>A) Describe with reference to the correct dimensions, how you would complete the model from step 2 to</p> <p>step 6 you should use sketches to support your</p>		

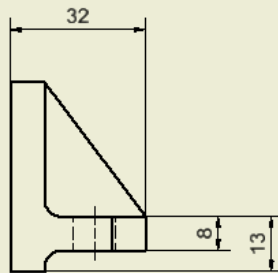
## Engineering Drawing of a Cast Bracket



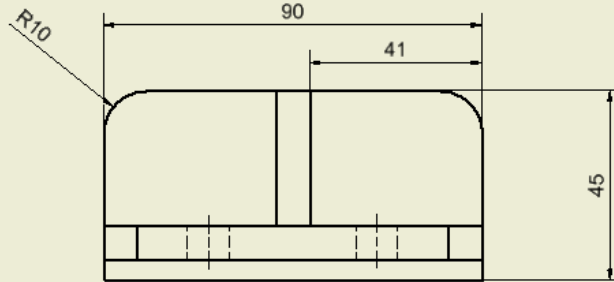
Isometric View



Plan



End Elevation



Front Elevation

All fillets rads to be  
4mm

Calderglen High School Technical Department	Title: Bracket 2	Name:	Scale:	
		Date:		

### Modelling stages using Autodesk Inventor

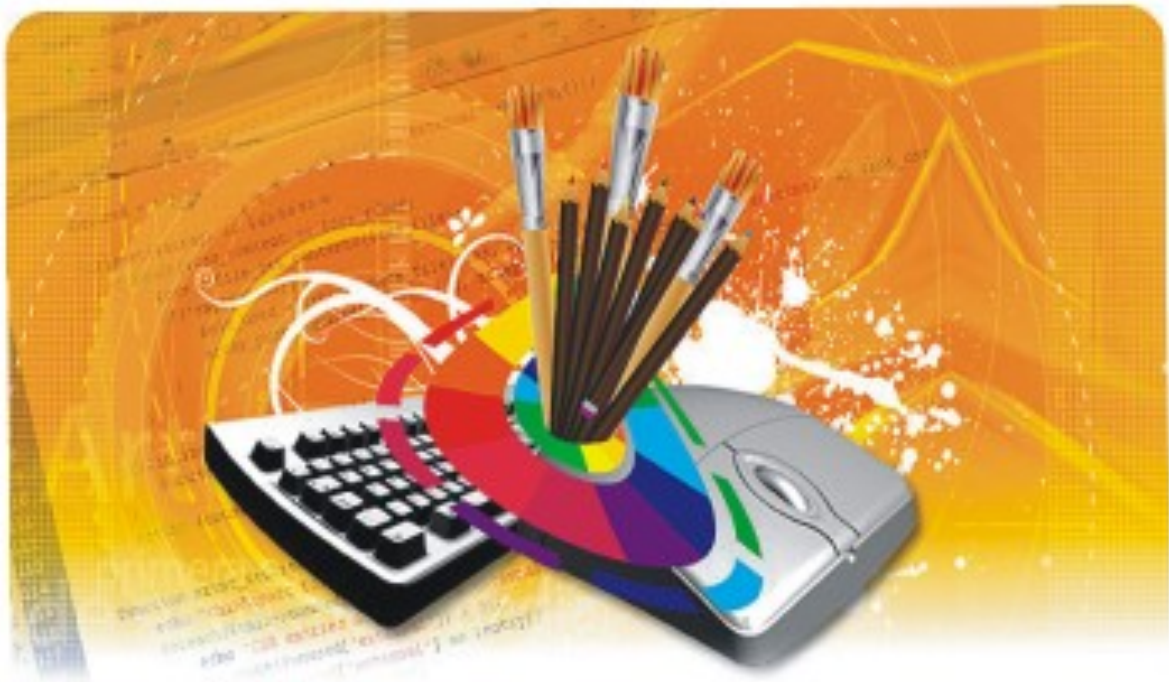
<p><b>Stage 1</b></p>	<p><b>Stage 2</b></p>	<p><b>Stage 3</b></p>	<p><b>Stage 4</b></p>
<p><b>Stage 5</b></p>	<p>A bracket is shown in the Engineering Drawing above.</p> <p>The stages required to model the bracket are shown in the table.</p> <p>Stage I was drawn using the 3D modelling software and using the sizes shown in the Engineering drawing.</p> <p>A) Describe with reference to the correct dimensions, how you would complete the model from step 2 to step 6 you should use sketches to support your answer.</p>		
<p><b>Stage 6</b></p>			





Calderglen High School  
Technology Department

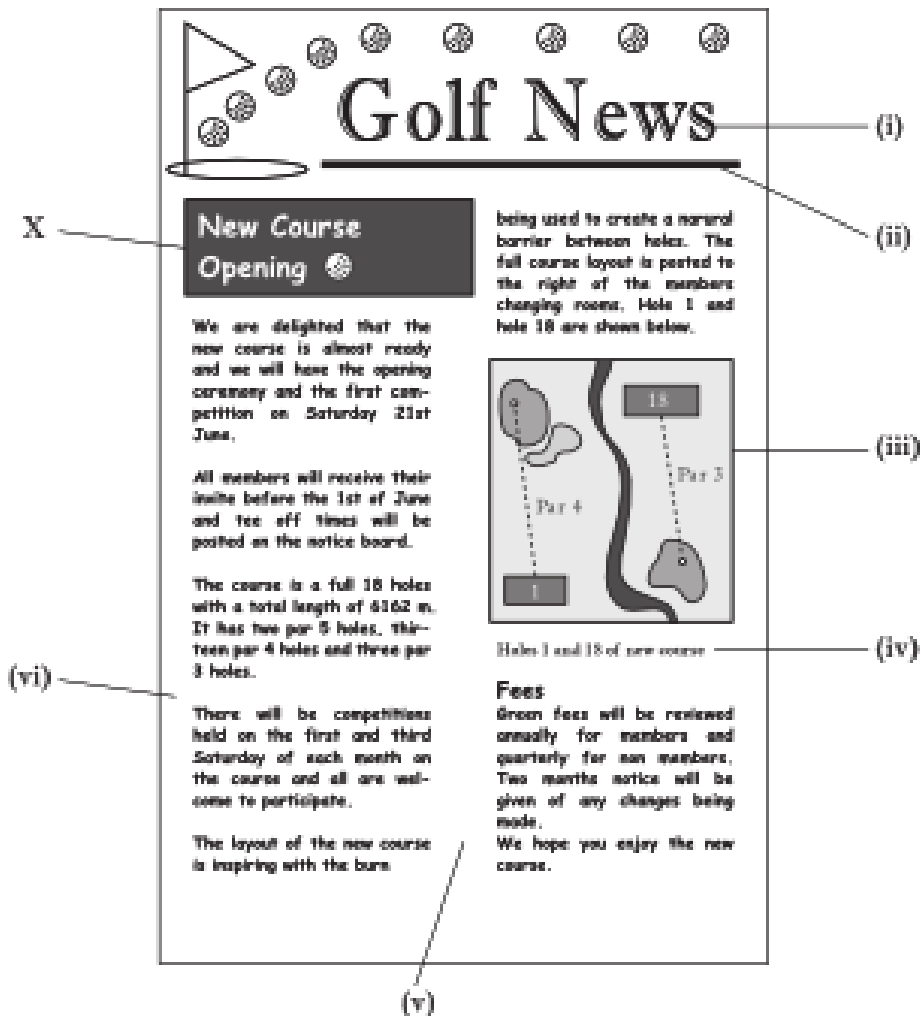
# Desktop Publishing Homework



Homework to be completed on time  
and returned in homework jotter.



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



(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) State the page orientation of the newsletter. .

( ..... 1

A desktop published document is shown below. State the DTP features indicated.

The image shows a desktop published document layout with the following features labeled:


- a:** Points to the main title "Health and Safety".
- b:** Points to a "Mandatory Sign" icon (a person wearing a hard hat) with the text "Mandatory Sign" below it.
- c:** Points to a bullet point in the text: "• Sed ut perspiciatis unde".
- d:** Points to a bullet point in the text: "• quibusdam et aut officiis".
- e:** Points to a bullet point in the text: "• ut et voluptates".
- f:** Points to the page number "Page 1" at the bottom right of the document.

The document content includes the title "Health and Safety", several paragraphs of placeholder text (Lorem ipsum), and a central "Mandatory Sign" icon. The text is arranged in two columns, with the sign centered between them.

- (a) .....
- (b) .....
- (c) .....
- (d) .....
- (e) .....
- (f) .....

An example of a desk top published news sheet is shown.

- (a) State the desk top publishing effect indicated at A. 1
- (b) State the desk top publishing terms for each of the features (i) to (vi). 6



A .....

(i) .....

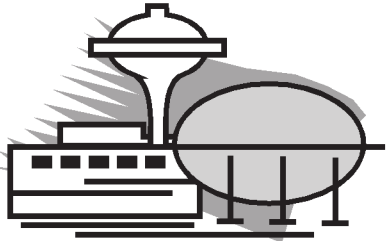
**Fresh start with Finnish firm.** (ii) .....

CHEMICAL firm Incenda's take-over by a Finnish company has been welcomed by a local MP. Combine Limited completed the purchase of the Grangemouth based fine chemical producer on Monday. All 50 of Incenda's employees will retain their jobs at the Earls Road site.

The new combined business will create a major new force in the global fine chemical sector, supplying agrochemicals, pharmaceutical and specialist chemical industries.

David Rice, vice president of Incenda Fine Chemicals and now managing director of SimCo UK Ltd, said:

We have a great deal of experience and strength in this sector which are underpinned by a highly



skilled workforce.

MP Michael Connarty said:

This is a good conclusion to a worrying story. Incenda had suffered a couple of big blows in the last few years, they had invested a lot of money in new equipment, but didn't have a viable product to make.

(iii) .....

(iv) .....

(v) .....

(vi) .....

Page 1

Describe, using sketches if required, the following desk top publishing term s.

Page orientation .....

.....  
.....  
.....

1

Rule .....

.....  
.....  
.....

1

Caption .....

.....  
.....  
.....

1

Gutter .....

.....  
.....  
.....

1

Reverse .....

.....  
.....  
.....

1

Header .....

.....  
.....  
.....

1

M argin .....

.....  
.....  
.....

1

(7)















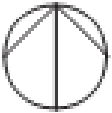




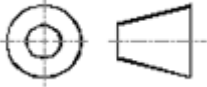


# Symbol Recognition Homework



Homework to be completed on time  
and returned in homework jotter.

11

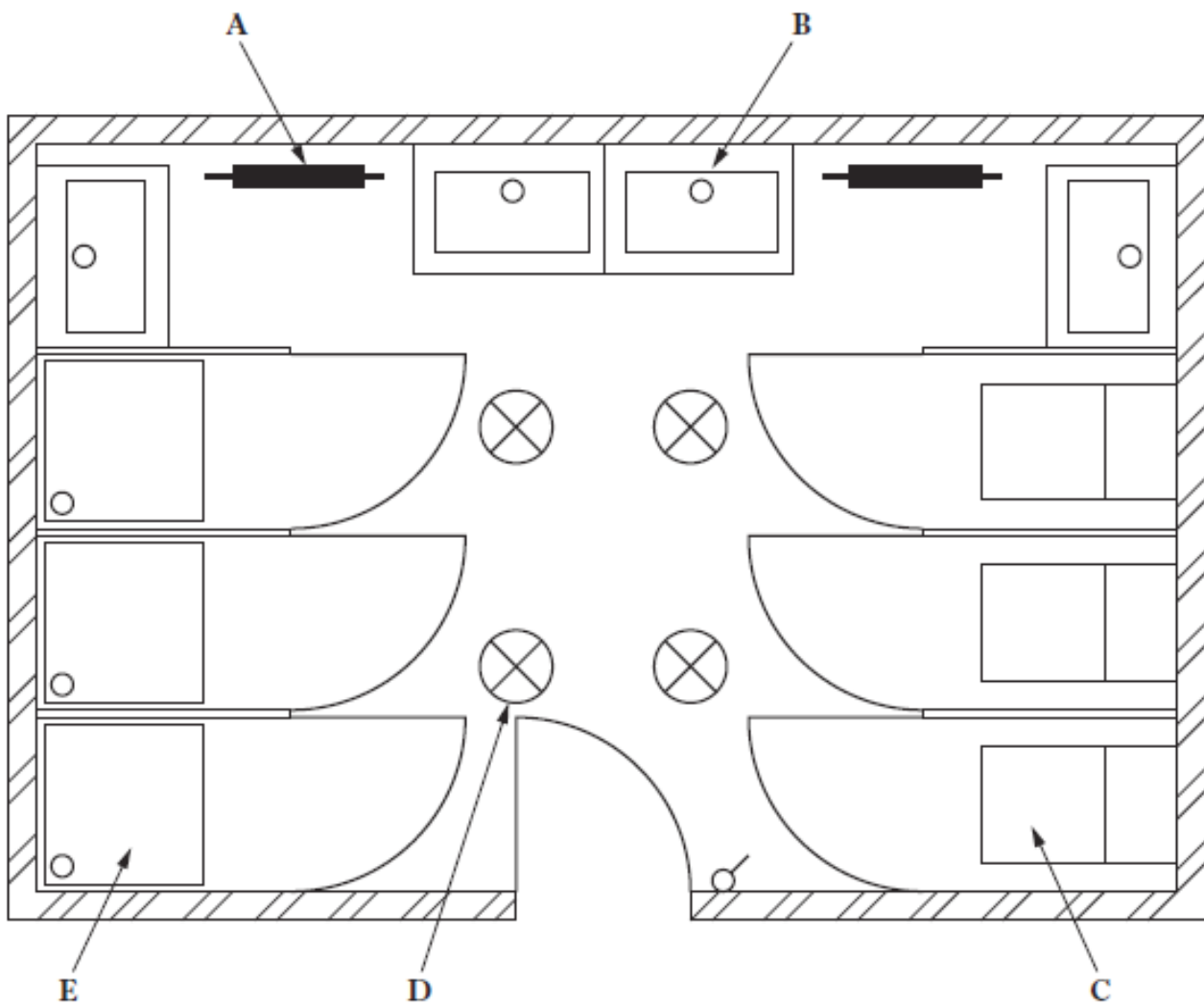
Write down what the symbols shown below represent :

1 	2 	3 	4 
5 	6 	7 	8 
9 	10 	11 	12 
13 	14 	15 	16 
17 	18 	19 	20 



A CAD floor plan for a sports changing facility is shown below.

State the name of the BSI symbol shown at **A**, **B**, **C**, **D** and **E**.



**A** ..... (1)

**B** ..... (1)

**C** ..... (1)

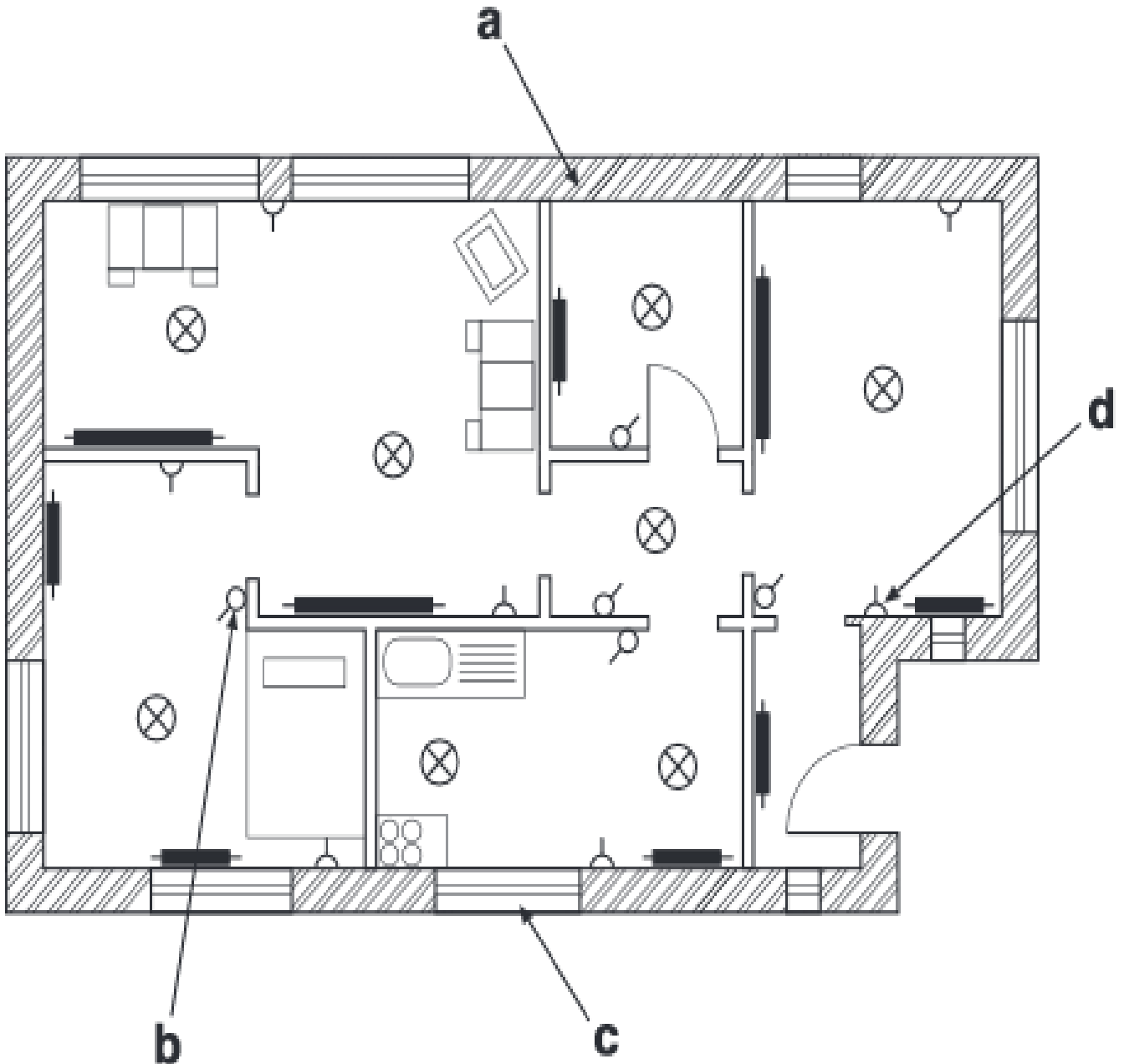
**D** ..... (1)

**E** ..... (1)

(5 marks)

A Floor plan for a house is shown below.

1. State the British standard symbols shown at a, b, c and d
2. How many windows face East.
3. What would be the easiest way to allow other users to use your symbols
4. What advantage can be gained from using symbols.





# Calderglen High School

## Technology Department

# CAD Commands

## Homework

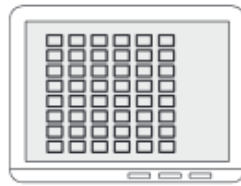


Homework to be completed on time  
and returned in homework jotter.

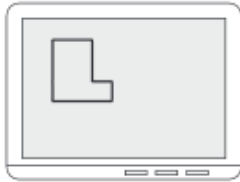
State the 2D CAD Commands used in the twelve pictures



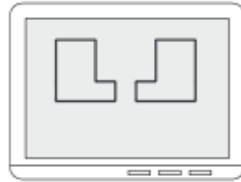
1      COMMAND



2      COMMAND



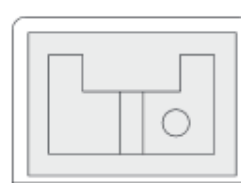
3      COMMAND



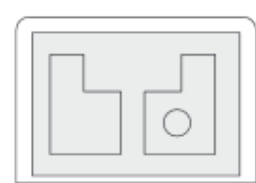
4      COMMAND



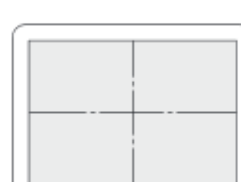
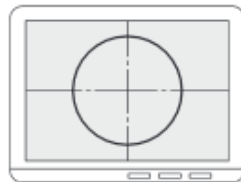
5      COMMAND



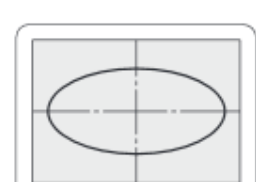
6      COMMAND



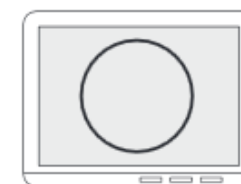
7      COMMAND



8      COMMAND



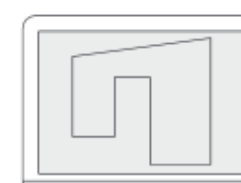
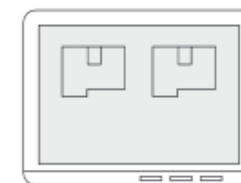
9      COMMAND



10      COMMAND



11      COMMAND



12      COMMAND

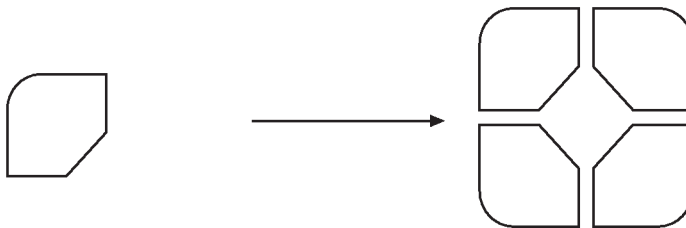


The various stages in producing a CAD drawing of a concrete building block are shown below.

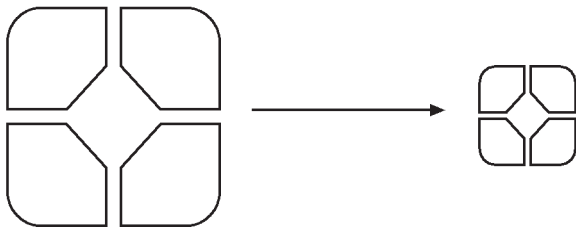
(a) State the single command that would be used for each stage.



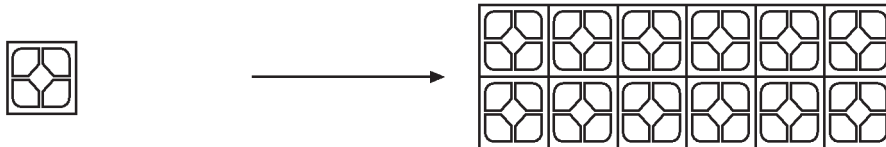
( i) .....



( ii) .....



(iii) .....



(iv) .....

(b) State which feature of a CAD package would allow the concrete building block to be stored for future use in different drawings.

.....

Explain, with the aid of sketches, the following CAD commands.

(a) Zoom

(b) Pan

(c) Chamfer

(d) Trim

(4 marks)





# Calderglen High School

## Technology Department

# Design Principles and Elements Homework

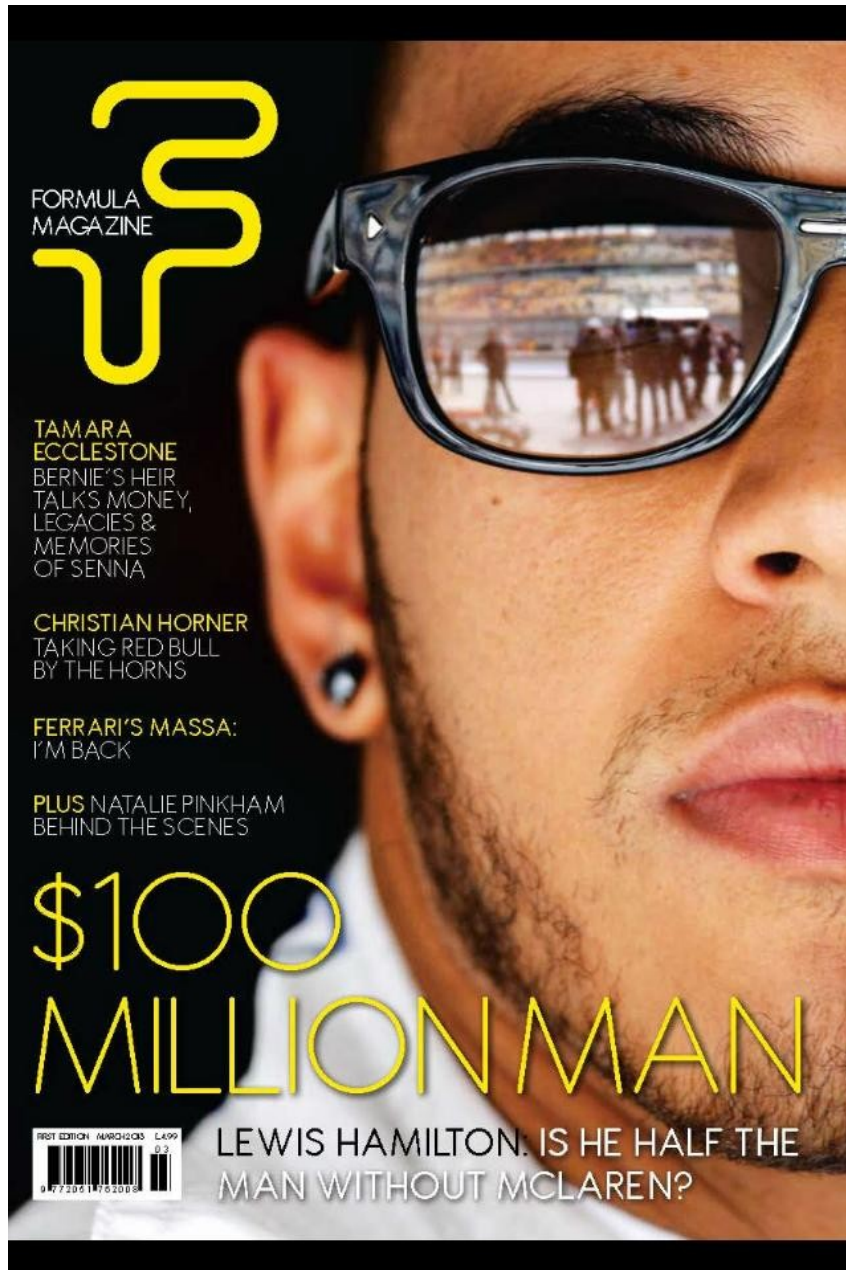


Homework to be completed on time  
and returned in homework jotter.

Identify the type of balance used in each of the magazine covers from 1– 9

1	2	3
4	5	6
7	8	9





1. State one instance where **alignment** has been used .
2. State one effect that **alignment** has on the cover.
3. State two ways in which the designer has created **unity** in the cover.
4. State two methods used to create **contrast** in the cover.
5. State the **balance** used .
6. What reason may have been considered when deciding the answer to question 5.



1. State one instance where **alignment** has been used .
2. State one effect that **alignment** has on the cover.
3. State two ways in which the designer has created **unity** in the cover.
4. State two methods used to create **contrast** in the cover.
5. State the **balance** used .
6. What reason may have been considered when deciding the answer to question 5.

The following names below are associated with Design Principles and Elements:

- 1) Line
- 2) White space
- 3) Colour
- 4) Balance
- 5) Unity
- 6) Shape

- Identify the what is an element and what is a principle.
- Chose one Element and one principle and describe them you can use a sketch.

Thumbnails and visuals are necessary when designing DTP documents.

- What stage are they used?
- What is the differences between them? you can use a sketch to help
- explain the difference.



Calderglen High School  
Technology Department

# Interpretation of Views Homework

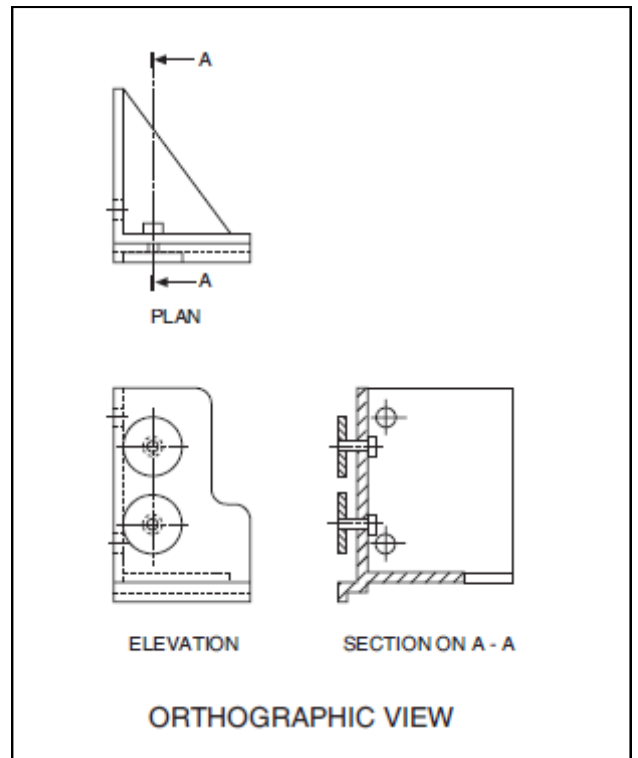
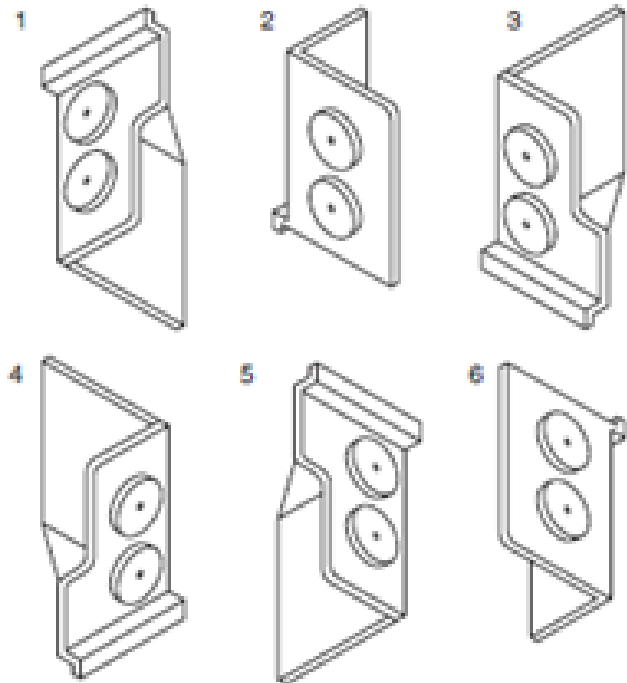


Homework to be completed on time  
and returned in homework jotter.



The Elevation , End Elevation and Plan of a wheeled bracket are shown

(a) Six pictorial views are shown below



State which **two** of these views represent the wheeled bracket.

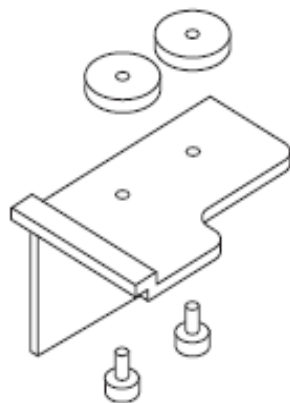
Answer 1 ..... Answer 2 ..... **KI 2**

(b) State the name given to the type of isometric view Y shown.

View Y ..... **KI 1**

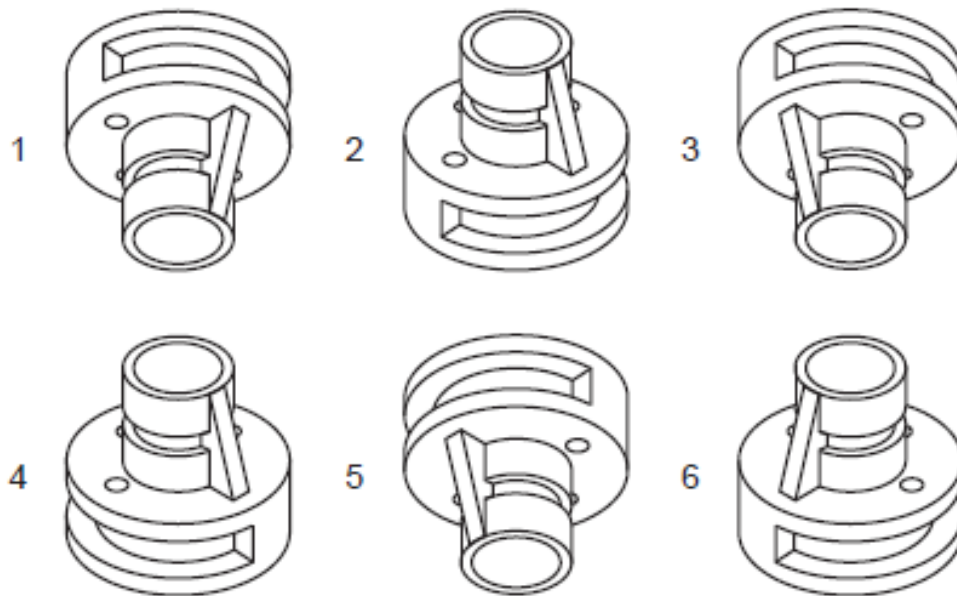
(c) State the purpose of a sectional view.

Purpose ..... **KI 1**



ISOMETRIC VIEW Y

The elevation, end elevation and plan of part of a pipe bracket are shown in **Drawing X** and are drawn using BSI drawing conventions.



(a) State which **two** of the views 1 to 6 above, represent the bracket shown in **Drawing X**.

**Answer 1** ..... **Answer 2** .....

KI 2

(b) State the name given to the types of view shown above.

**Answer** .....

KI 1

(c) State the general name given to views like the ones above, in which you see all three dimensions.

**Answer** .....

KI 1

(d) Views 1 to 6 above are not drawn to scale. State **two** factors that effect the scale used for drawings.

**Answer 1** .....

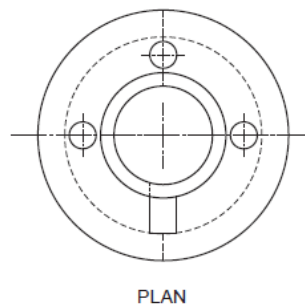
.....

**Answer 2** .....

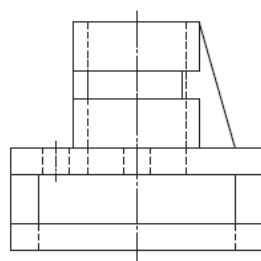
.....

KI 2

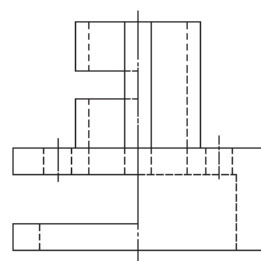
Drawing X



PLAN



END ELEVATION



ELEVATION