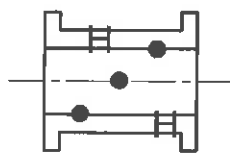


ANSWERS			
1	2013-11-04	1	
2	K CIZAKE	1	
3	01-NOV-13	1	
4	P. MOOLMAN	1	
5	∅46	1	
6	NORMALISING	1	
7	MILLING	1	
8	± 0,3	1	
9		3	
10	OIL HOLE	1	
11	REVOLVED SECTIONED	1	
12	C 150°                      D 207                      E 32	3	
13	0,8 x M12 = 9,6	2	
14	STUD	1	
15	MEASUREMENT LINE IS EXTENDED/CONTINUING TO THE TOTAL LENGTH OF 150 mm	1	
16	SYMMETRY	1	
17	7	1	
18	PREVENTING THE BEARING HALVES FROM SLIDING OUT	2	
19	KEY	2	
20		4	
<b>TOTAL</b>		<b>30</b>	

ANSWER 9

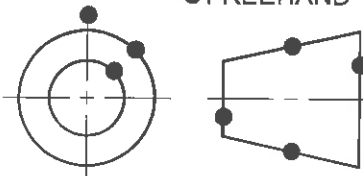
● FREEHAND



NOTE: NO MARK ALLOCATE IF HATCHED

ANSWER 20

● FREEHAND

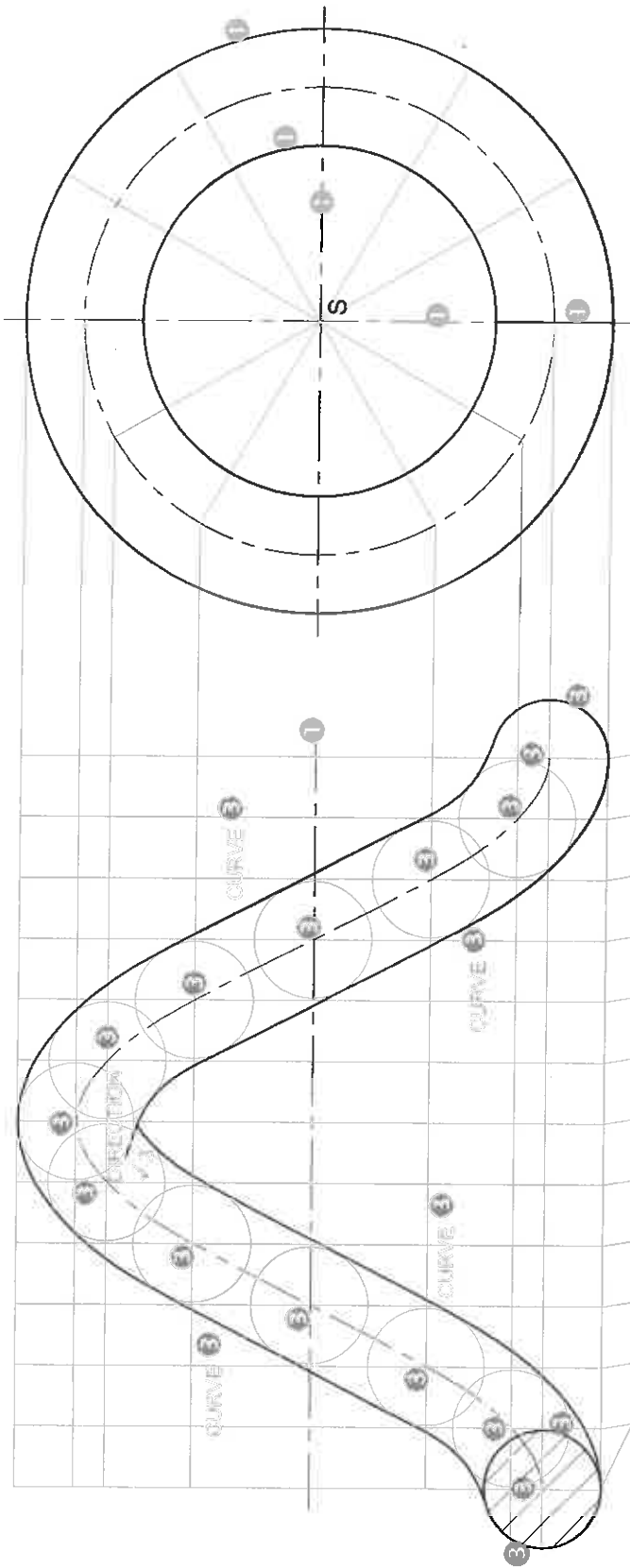


SYMBOL

PAPER 2 QUESTION 1  
 GRADE 12  
 November 2014  
 MEMORANDUM

*[Handwritten signatures and initials]*

PROFILE CIRCLES (Ø16) ✓ 3

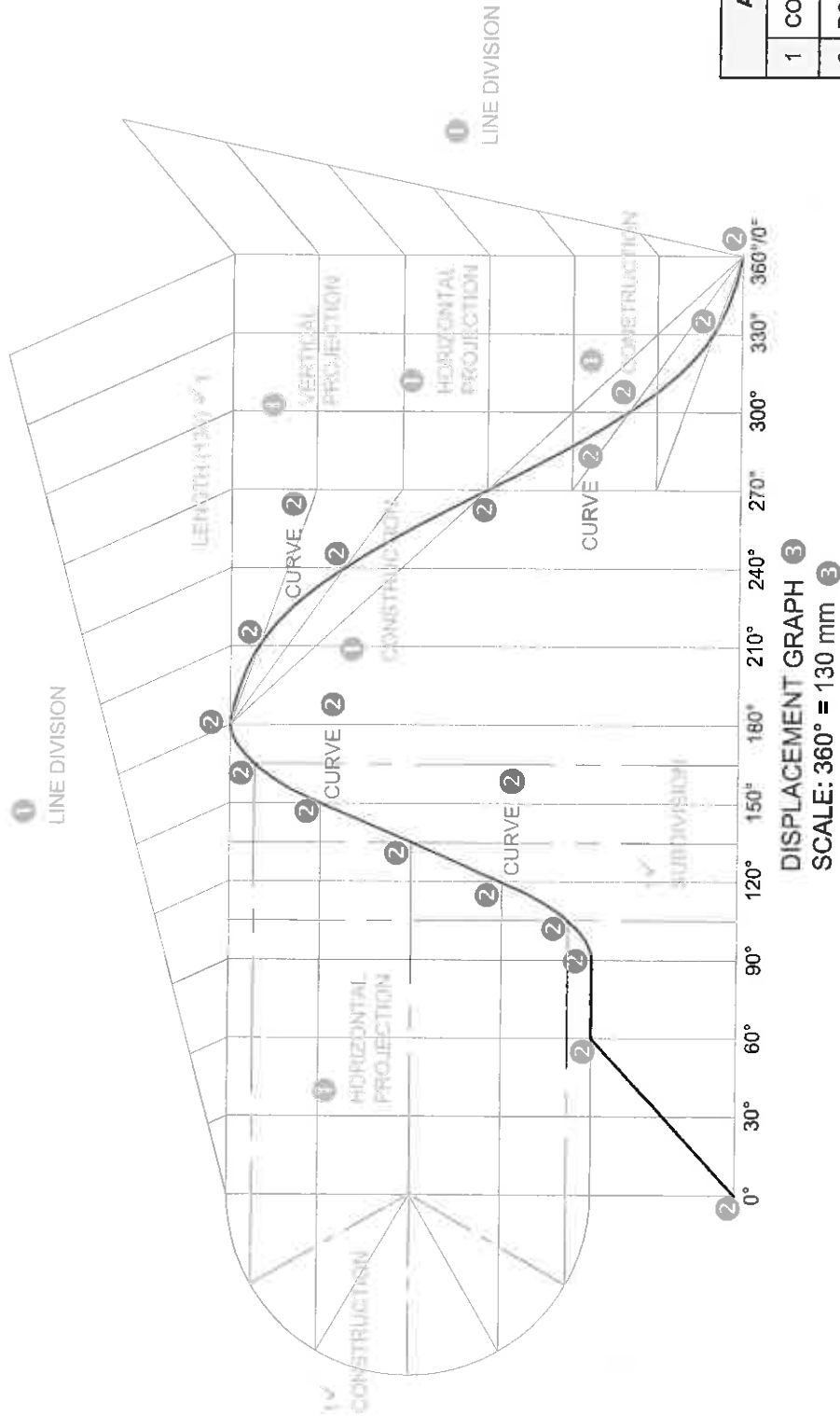


- CONSTRUCTION:**
- PROFILE CENTRE 1
  - CIRCLE DIVISION 1
  - PITCH 1
  - LINE DIVISION 1
  - VERTICAL PROJECTION 1
  - HORIZONTAL PROJECTION 1
- 6

PAPER 2 QUESTION 2.1  
 GRADE 12  
 DBE/November 2014  
 MEMORANDUM

ASSESSMENT CRITERIA	
1	GIVEN + CENTRE LINES 3
2	CONSTRUCTION 6
3	POINTS + CURVES 12
PENALTIES (-)	
SUBTOTAL 2.1	
21	

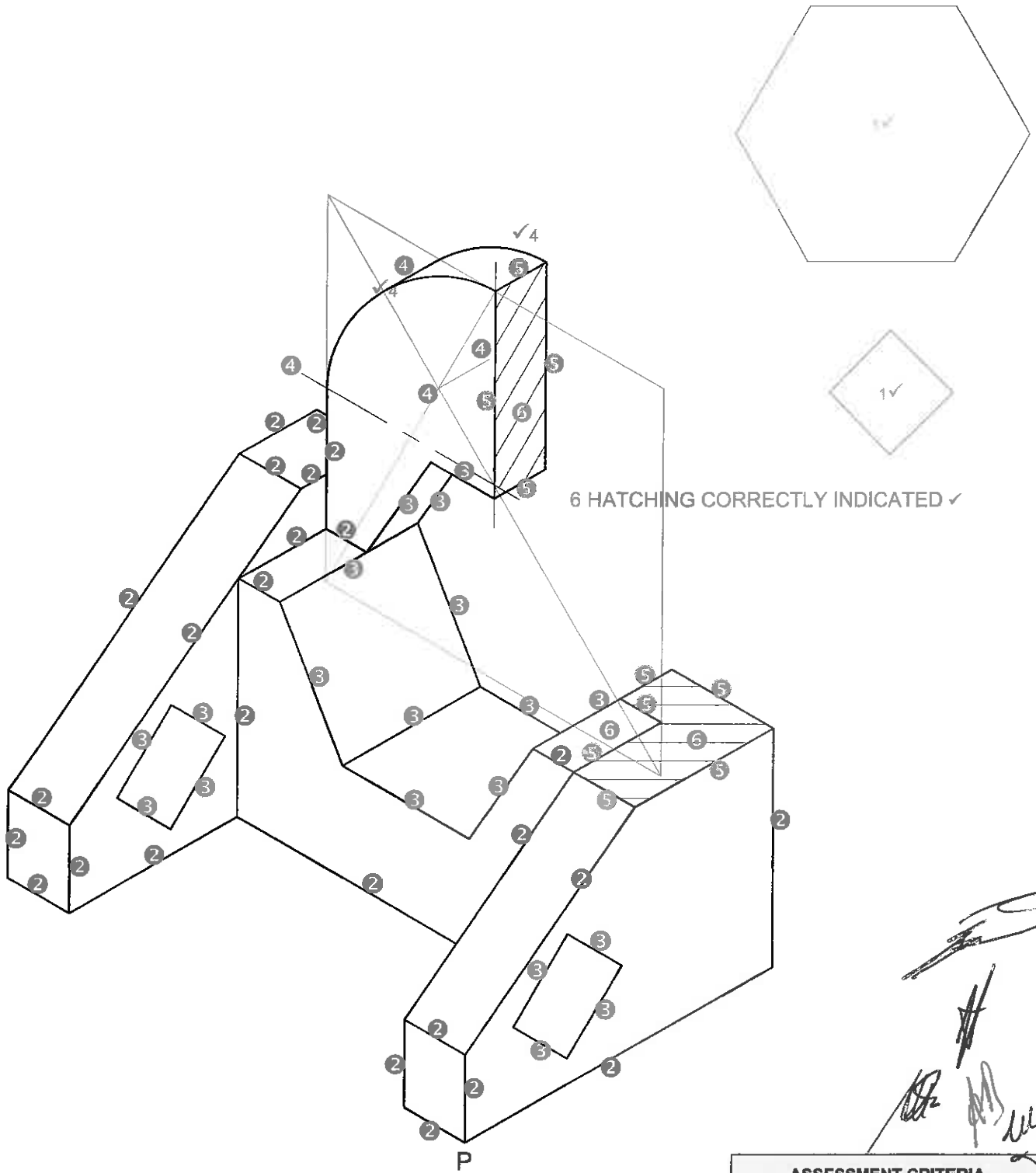
*[Handwritten signatures and initials]*



ASSESSMENT CRITERIA	
1	CONSTRUCTION 6½
2	POINTS + CURVES 9½
3	LABELS 1
PENALTIES (-)	
<b>2.2 SUBTOTAL 17</b>	
<b>2.1 SUBTOTAL 21</b>	
<b>TOTAL 38</b>	

PAPER 2 QUESTION 2.2  
 GRADE 12  
 DBE/November 2014  
 MEMORANDUM

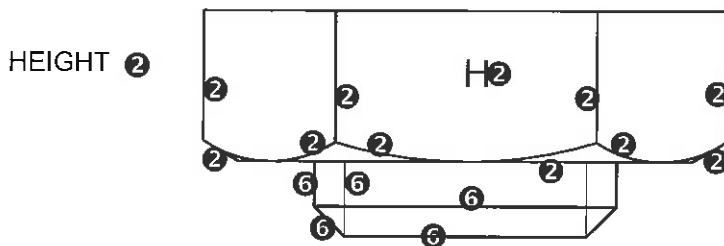
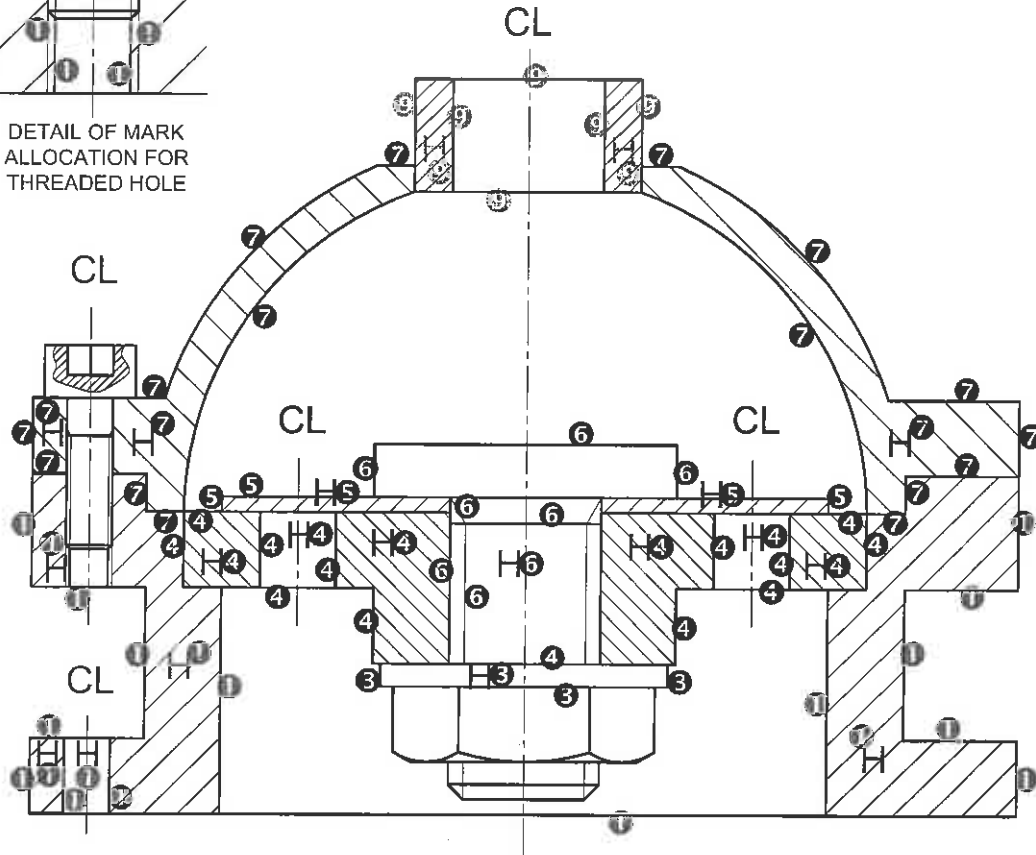
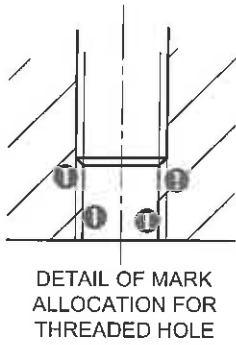
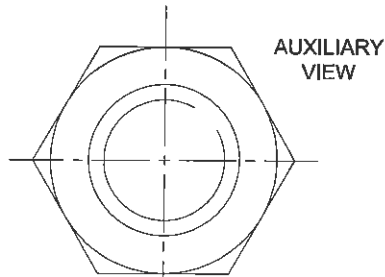
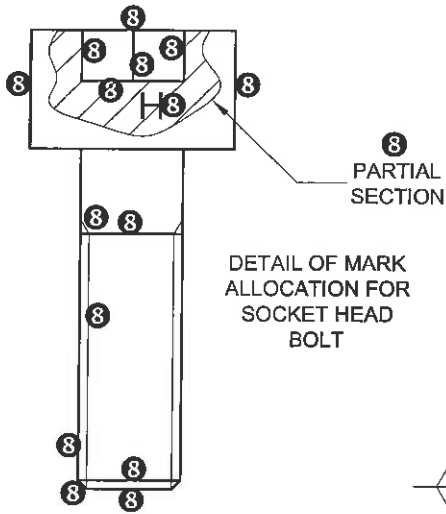
*[Handwritten signatures and initials]*



CORRECT PLACEMENT ON POINT P ✓

PAPER 2 QUESTION 3  
 GRADE 12  
 November 2014  
 MEMORANDUM

ASSESSMENT CRITERIA		
1	AUX. VIEW + PLACING	3
2	ISOMETRIC + NON-ISO'	13
3	HEXAGON + SQUARES	9½
4	CIRCLES + CONST.	4
5	SECTION	5
6	HATCHING	2½
PENALTIES (-)		
<b>TOTAL</b>		<b>37</b>



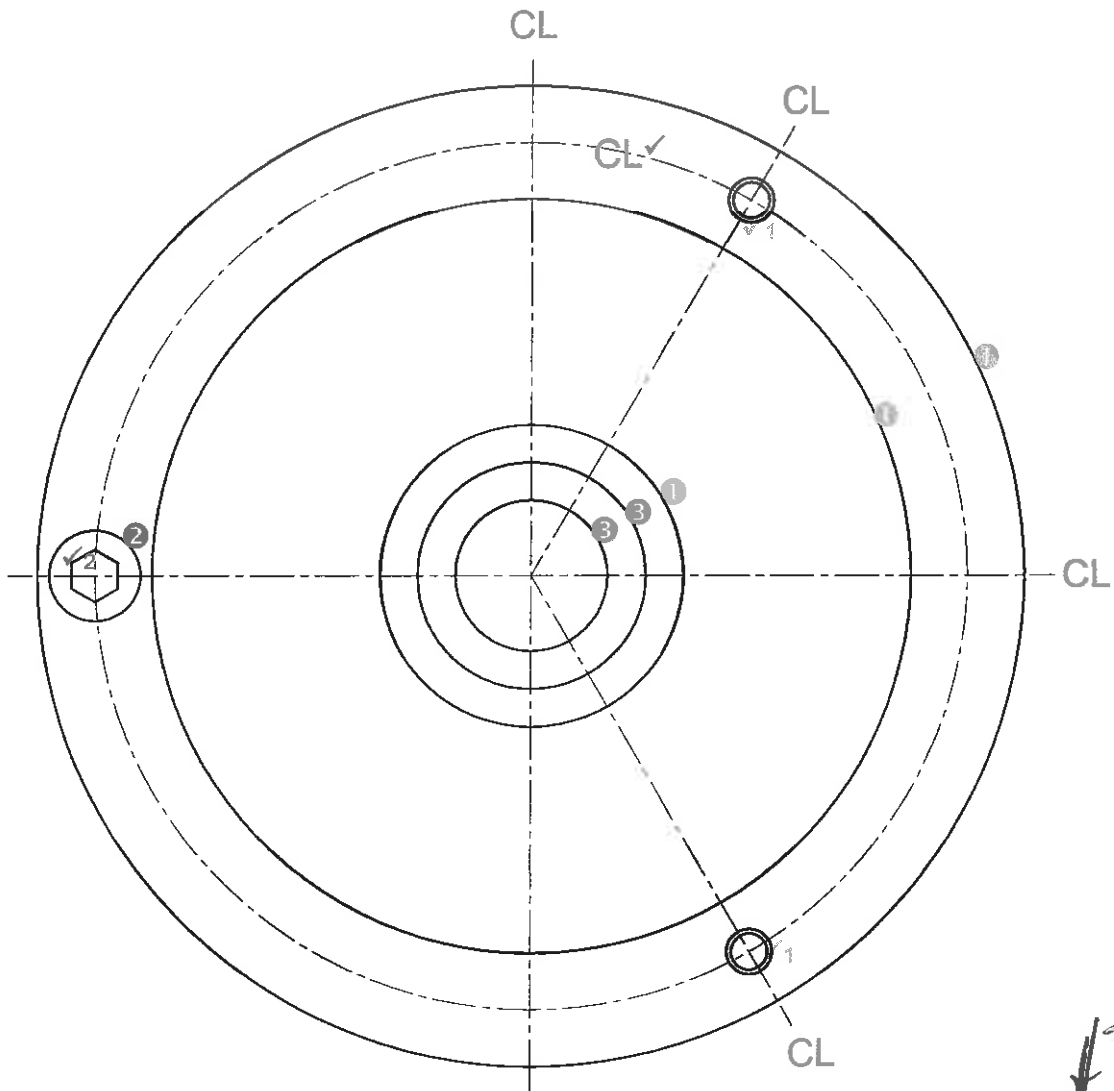
DETAIL OF MARK ALLOCATION FOR NUT AND BOLT

ASSESSMENT CRITERIA		
SECTIONAL FRONT VIEW		
		POSSIBLE
1	CYLINDER	12
2	M20 NUT	6
3	WASHER	2
4	VALVE PLATE	9½
5	DIAPHRAGM	2½
6	FLANGE STUD	6½
7	CYLINDER HEAD	9½
8	SOCKET HEAD BOLT	8
9	OUTLET PIPE	4
<b>SUBTOTAL</b>		<b>60</b>

PAPER 2 QUESTION 4  
 GRADE 12  
 November 2014  
 MEMORANDUM

*Handwritten signature and initials*

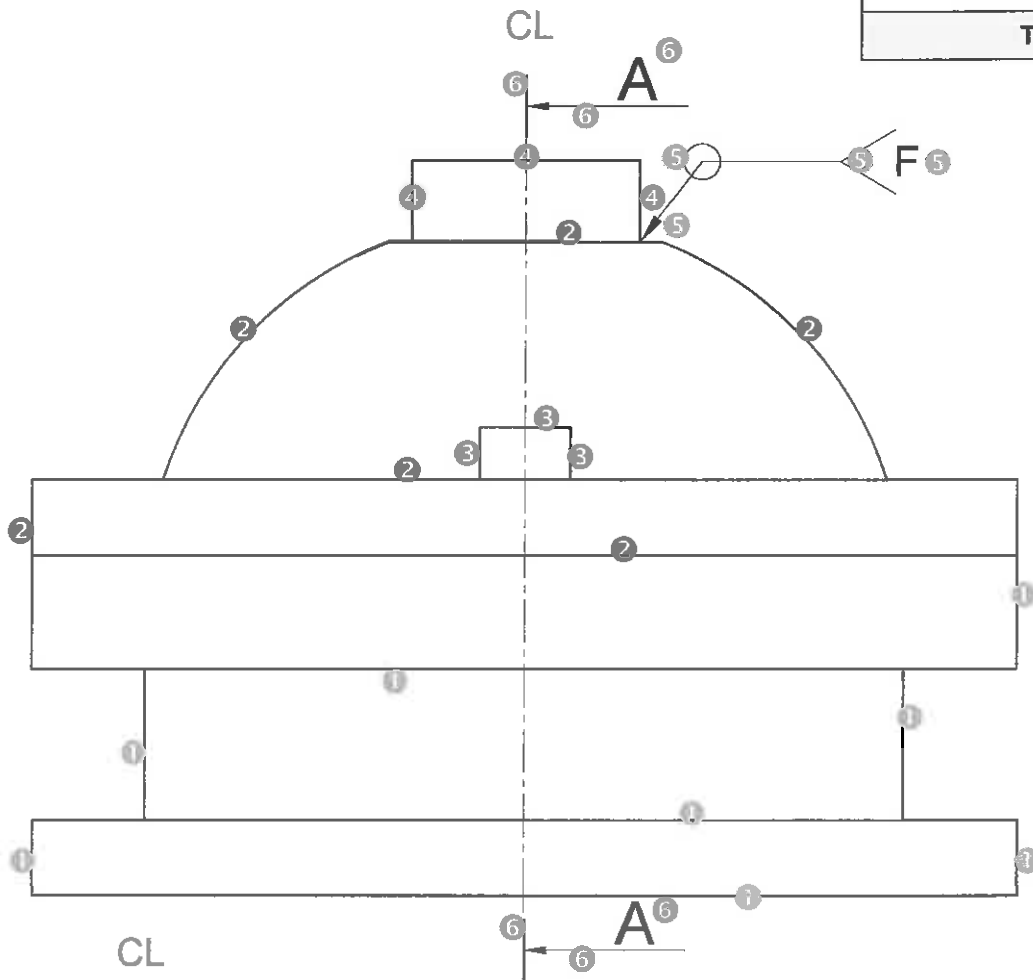
ASSESSMENT CRITERIA		
TOP VIEW		
1	CYLINDER HEAD	3½
2	SOCKET HEAD BOLT	1½
3	OUTLET PIPE	1
<b>SUBTOTAL</b>		<b>6</b>



PAPER 2 QUESTION 4  
 GRADE 12  
 November 2014  
 MEMORANDUM

*Handwritten signatures and initials, including 'AS' and 'delly'.*

ASSESSMENT CRITERIA		
LEFT VIEW		
1	CYLINDER	4
2	CYLINDER HEAD	3
3	SOCKET HEAD BOLT	1½
4	OUTLET PIPE	1½
5	WELDING SYMBOL	2
6	CUTTING PLANE	3
<b>SUBTOTAL</b>		<b>15</b>
GENERAL		
1	CENTRE LINES	6
2	ASSEMBLY	8
<b>SUBTOTAL</b>		<b>14</b>
PENALTIES (-)		
<b>TOTAL</b>		<b>95</b>



ALLOCATE 1 MARK FOR EACH COMPONENT CORRECTLY ASSEMBLED (9 PARTS - 1 = 8)

*[Handwritten signatures and initials]*

PAPER 2 QUESTION 4  
 GRADE 12  
 November 2014  
 MEMORANDUM



## education

Department:  
Education  
REPUBLIC OF SOUTH AFRICA

### November 2014 NSC Marking Guideline Discussion Meeting

#### ENGINEERING GRAPHICS & DESIGN: PAPER 2

16 November 2014 from 08:30 to 16:00 at 222 Struben Street, Pretoria

#### **ADDITIONS AND CHANGES TO PRESENTED MEMORANDA:**

#### PAPER 2:

##### NOTE:

- As accuracy is a fundamental and essential component of EGD drawings, a deviation of only 1 mm is permissible on the accuracy of ALL aspects of ALL drawings
- 'Masks' and/or drawing instruments, which are essential marking tools, must therefore be used to check correctness and accuracy of 'correctly' drawn answers or aspects of answers
- However, the principles of 'mark with the mistake' and 'the learner should be given the benefit of the doubt' must be applied when the required level of evidence of knowledge has been displayed
- Drawing instruments, e.g. a divider, setsquares etc., must be used to check correctness and accuracy when 'marking with the mistake'

##### QUESTION 1:

**NOTE:** The TOLERANCE RANGE on the allocation of marks is a 2 marks deviation only.

There are no changes to the presented memorandum!

However, the following answers will also be acceptable:

5. Full mark for 46. Also accept 'THE SAME'/'DIE SELFDE'.
8. Must be complete ' $\pm 0,3$ '
9. If HATCHED =  $-2 \times \frac{1}{2}$  marks allocated for HATCHING  
If candidate redrew the view in different position = -1 mark and then 'mark with the mistake'  
If oil hole is inserted/included =  $-\frac{1}{2}$  mark  
If candidate redrew the front view =  $\frac{1}{2}$  mark only if drawn in FREEHAND
10. Emphasis on 'HOLE'
11. 'REVOLVED' or "GEWENTELDE" only
12. 'C': '150' =  $\frac{1}{2}$  mark and '° (degrees)' =  $\frac{1}{2}$  mark. If not '150' = 0 marks
13. 'X 0,8' = 1 mark and '9,6' = 1 mark
14. For the Afrikaans answer, the emphasis must be on "TAP"
15. Any answer that indicates that the ACTUAL LENGTH of that part is 150, must be accepted as correct
16. Must show knowledge that the two halves are SYMMETRICAL/MIRROR IMAGES
18. 'ALIGNMENT OF BEARINGS' also correct
19. 'KEY' / 'GRUB SCREW' / 'COTTER PIN' / 'PIN' can all be accepted
20. Instrument drawing =  $-\frac{1}{2}$  mark for FREEHAND  
Must be THIRD ANGLE symbol!



November 2014 NSC Marking Guideline Discussion Meeting  
ENGINEERING GRAPHICS & DESIGN: PAPER 2

16 November 2014 from 08:30 to 16:00 at 222 Struben Street, Pretoria

**ADDITIONS AND CHANGES TO PRESENTED MEMORANDUMS:**

QUESTION 2.1:

**NOTE:** The TOLERANCE RANGE on the allocation of marks is a **1 mark** deviation only.

There are **no changes** to the **drawings** on the memorandum!

There are **no changes** to the **mark allocation** on the memorandum!

**PENALTIES:**

- If **NOT** to 'SCALE 1:1' = **- 2 marks**

Take note of the following:

- If only ONE HALF of the RIGHT VIEW has been **drawn**, the **TWO ½ marks** for the TWO CIRCLES will **NOT** be allocated
- PROFILE CENTRE mark under CONSTRUCTION: = **1 mark** for RIGHT VIEW 'CENTRE LINE'
- If candidate used **wrong profile centre** = **- 1 mark** and then '**mark with the mistake**'
- If candidate draws a SQUARE PROFILE/SPRING = **maximum 15½ marks only**
- If the candidate drew an AUGER or SCREW THREAD = **marks** for RIGHT VIEW, CONSTRUCTION and DIRECTION only, i.e. = **maximum 8½ marks only**

QUESTION 2.2:

**NOTE:** The TOLERANCE RANGE on the allocation of marks is a **1 mark** deviation only.

There are **no changes** to the **drawings** on the memorandum!

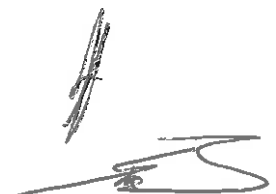
There are **no changes** to the **mark allocation** on the memorandum!

**PENALTIES:**

- **None**

Take note of the following:

- If the LINE DIVISION for the ACCELERATION AND RETARDATION is done on the 'MIDDLE LINE / 270° LINE', the mark for the HORIZONTAL PROJECTION will be combined with the LINE DIVISION mark, i.e. = **1 full mark**
- If the CIRCLE DIVISION for the SIMPLE HARMONIC DIVISION is @ 45°, then the 'HORIZONTAL - / ROTATIONAL SCALE' between 90° - 180° must be **also DIVIDE** into **4 parts equal divisions**  
The **½ marks** allocated for the CIRCLE'S 30° and 60° as well as the 120° and 150° intersections, must be **combined** as **1 full mark** for the 45° as well as the 135° intersections
- If the DIVISION for the ACCELERATION AND RETARDATION is done with a circle, i.e. an HARMONIC CONSTRUCTION, the candidate **loses ALL** the **½ marks** for the CONSTRUCTION and the POINTS for the ACCELERATION AND RETARDATION, **except** the **TWO ½ marks** for the CURVES MARKS
- If CONSTANT VELOCITY **only** is used, marks will only be allocated where the POINTS **coincide** with those on the MEMORANDUM, i.e. = **maximum 5 x ½ marks only**  
**Although** the **½ mark** in the middle of the ACCELERATION AND RETARDATION curve will be in the right place, it may **not be allocated**



November 2014 NSC Marking Guideline Discussion Meeting

ENGINEERING GRAPHICS & DESIGN: PAPER 2

16 November 2014 from 08:30 to 16:00 at 222 Struben Street, Pretoria

**ADDITIONS AND CHANGES TO PRESENTED MEMORANDUMS:**

QUESTION 3:

**NOTE:** The TOLERANCE RANGE on the allocation of marks is a 1 mark deviation only.

There are **no changes** to the **drawings** on the memorandum!

There are **no changes** to the **mark allocation** on the memorandum!

**PENALTIES:**

- If **NOT** to 'SCALE 1:1' = - 2 marks

Take note of the following:

- **Wrong** PLACEMENT / ORIENTATION, lose 1 mark for PLACEMENT and then only allocate marks which are on the 'MEMO'
- CONSTRUCTION of HEXAGON and/or SQUARE drawn the **wrong size** = 0 mark for CONSTRUCTIONS and then '**mark with the mistake**'
- If HEIGHT of CIRCLE is **incorrect**, = - ½ mark at the **top** of 'SECTIONED AREA'
- If **no HATCHING** is **done**, = no mark for NON HATCHED 'L' shape
- If the HATCHING is **not** the 'CORRECT TYPE, EQUALLY SPACED, AT DIFFERENT ANGLES' and/or 'IN FREEHAND', = - ½ mark for **each mistake** up to a **maximum** = -1 mark for HATCHING CORRECTLY INDICATED

QUESTION 4:

**NOTE:** The TOLERANCE RANGE on the allocation of marks is a 3 mark deviation only.

There are **no changes** to the **drawings** on the memorandum!

The **following change** has to be made to the **mark allocation** on the memorandum:

- The TWO ½ mark for the CENTRE LINES on the LEFT VIEW must be moved to the PCD CENTRE LINE in the top view as a full mark

**PENALTIES:**

- If **NOT** correctly drawn in 'THIRD ANGLE', i.e. incorrect alignment and/or placing = - 2 marks
- If **NOT** to 'SCALE 1:1' = - 2 marks
- If the HATCHING is 'INCORRECT TYPE, NOT EQUALLY SPACED, NOT SHOWING DIFFERENTIATION BETWEEN PARTS' and/or 'IN FREEHAND', = - 1 mark for **each mistake** up to a **maximum** = - 2 mark for HATCHING
- Each PART **not assembled**, i.e. drawn **separately from the rest** of the parts = - ½ mark for each PART

**NOTE:**

No marks will be deducted for the CONSTRUCTION of the M20 NUT

**SECTIONAL FRONT VIEW:**

- If the OUTLET PIPE is drawn **flush** with the top of the FRONT VIEW, = ALL marks if drawn correctly
- The HATCHING of the DIAPHRAGM may be coloured in
- If **sizes** of NUT is **incorrect** = - ½ mark for **each** of the **outside lines** of NUT
- To obtain the marks for NONE HATCHED areas of a PART, the **sectioned surfaces** of the PART must be HATCHED



**November 2014 NSC Marking Guideline Discussion Meeting**  
**ENGINEERING GRAPHICS & DESIGN: PAPER 2**  
16 November 2014 from 08:30 to 16:00 at 222 Struben Street, Pretoria  
**ADDITIONS AND CHANGES TO PRESENTED MEMORANDUMS:**

***Continuation of CHANGES to PAPER 1 QUESTION 4:***

**TOP VIEW**

- The CUTTING PLANE **may be shown** in the TOP VIEW, but it must be **correctly shown/ drawn** and the **marks** must still be indicated in the ASSESSMENT CRITERIA TABLE at the mark under the LEFT VIEW

**LEFT VIEW**

- If the CUTTING PLANE is **not shown** in the LEFT VIEW, make sure if it is not shown on the TOP VIEW
- The WELDING SYMBOL can be placed on **either side** of the OUTLET PIPE
- The WELDING SYMBOL can be drawn at **any size**
- If the WELDING SYMBOL is not placed correctly = **- ½ mark** for the ARROW of the WELDING SYMBOL
- If the candidate placed the OUTLET PIPE level with the top of the CYLINDER HEAD in the SECTIONAL FRONT VIEW, the **½ mark** for the top of the OUTLET PIPE must still be allocated. For the other **2 X ½ mark** of the OUTLET PIPE to be allocated, HIDDEN DETAIL must be shown.