



# basic education

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Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P2**

**FEBRUARY/MARCH 2015**

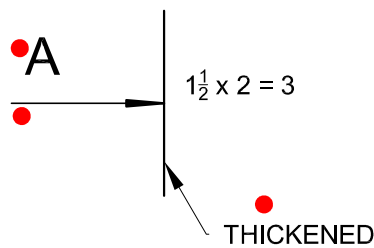
**MEMORANDUM**

**MARKS: 100**

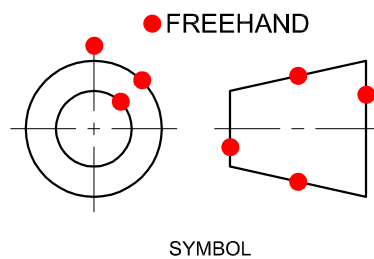
**This memorandum consists of 6 pages.**

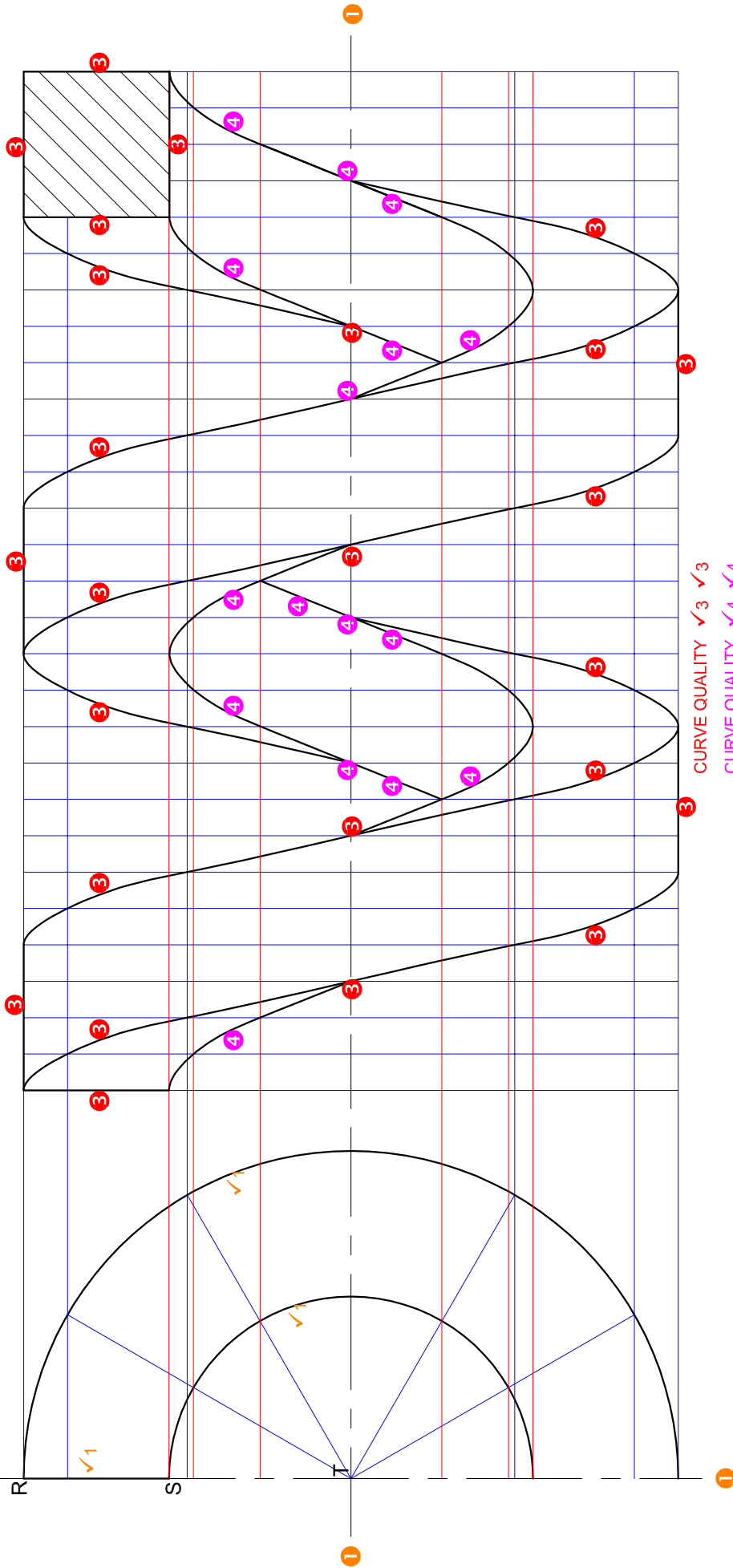
<b>ANSWERS</b>		
1	2014-03-03	1
2	BOX AND GLAND	1
3	SCALE 1 : 2	1
4	RUBBER	1
5	2014-02-03	1
6	BG-15/4	1
7	RIGHT VIEW	1
8	HALF SECTION	1
9	WASHER	1
10	STUD	1
11	SPOTFACE	1
12	S-BREAK	1
13	7	1
14	A - 100                      B - Ø12	2
15	C - 21 - 3 = 18              D - 64 + (32-8) = 88	4
16	160.25	2
17	159.7	2
18		3
19		4
<b>TOTAL</b>		<b>30</b>

**ANSWER 18**



**ANSWER 19**



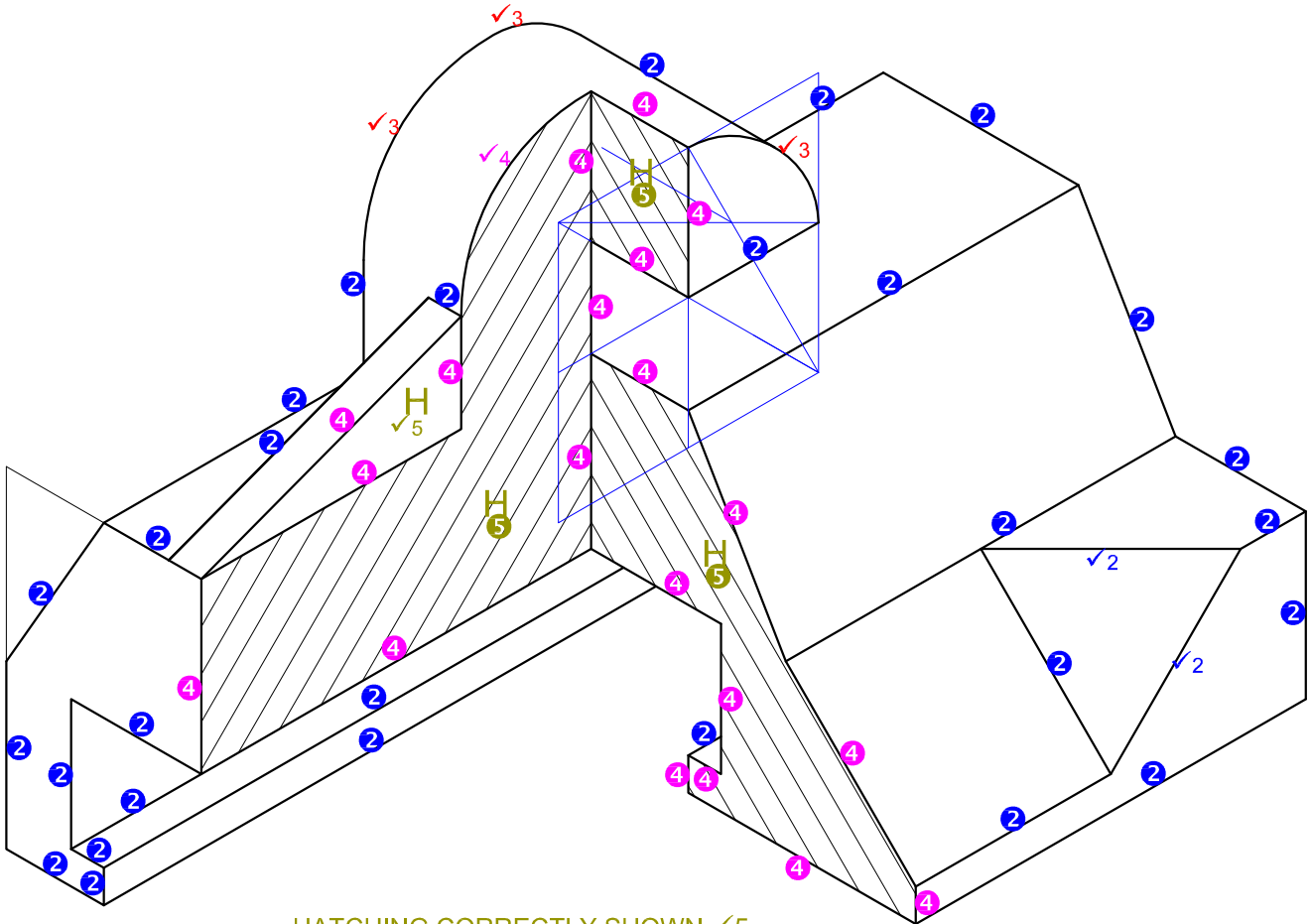


- CONSTRUCTION:**
- CIRCLE DIVISION 1
  - PITCH 1
  - HORIZONTAL PROJECTION INNER CIRCLE 1
  - HORIZONTAL PROJECTION OUTER CIRCLE 1
  - VERTICAL DIVISION FIRST TURN 1
  - VERTICAL DIVISION SECOND TURN 1
  - DIRECTION 2
- 8

ASSESSMENT CRITERIA		
1	GIVEN + CENTRE LINES + STARTING POINT	4½
2	CONSTRUCTION	8
3	OUTSIDE POINTS + CURVE + QUALITY	14½
4	INSIDE POINTS + CURVE + QUALITY	10
PENALTIES (-)		
<b>TOTAL</b>		<b>37</b>

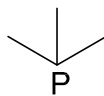


CIRCLE CONSTRUCTION ✓3✓3



HATCHING CORRECTLY SHOWN ✓5

CORRECT PLACEMENT ON POINT P ✓1



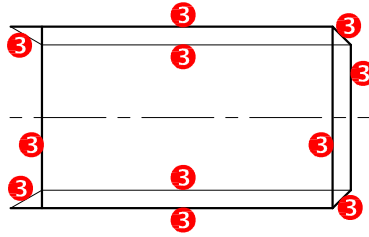
ASSESSMENT CRITERIA		
1	AUX. VIEW + PLACING	3
2	ISOMETRIC + NON-ISOMETRIC LINES	16½
3	ISOMETRIC CIRCLES + CIRCLE CONSTRUCTION.	5
4	SECTIONED SURFACES	11
5	HATCHING	3½
PENALTIES (-)		
<b>TOTAL</b>		<b>39</b>

PAPER 2 QUESTION 3  
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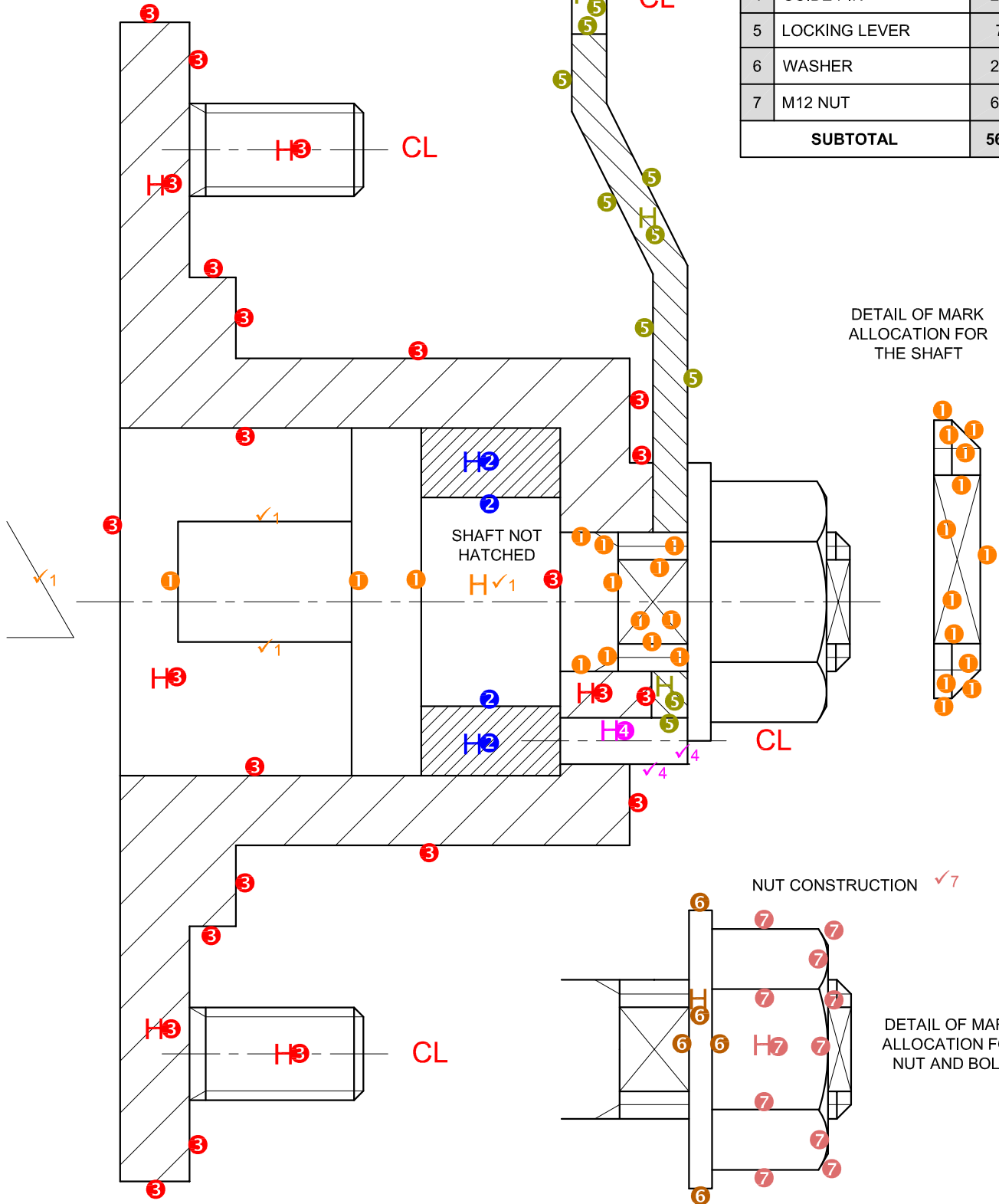
**ASSESSMENT CRITERIA**

**SECTIONAL FRONT VIEW**

		POSSIBLE
1	SHAFT	17 1/2
2	SEAL	2
3	BASE	18 1/2
4	GUIDE PIN	2 1/2
5	LOCKING LEVER	7
6	WASHER	2 1/2
7	M12 NUT	6 1/2
<b>SUBTOTAL</b>		<b>56 1/2</b>

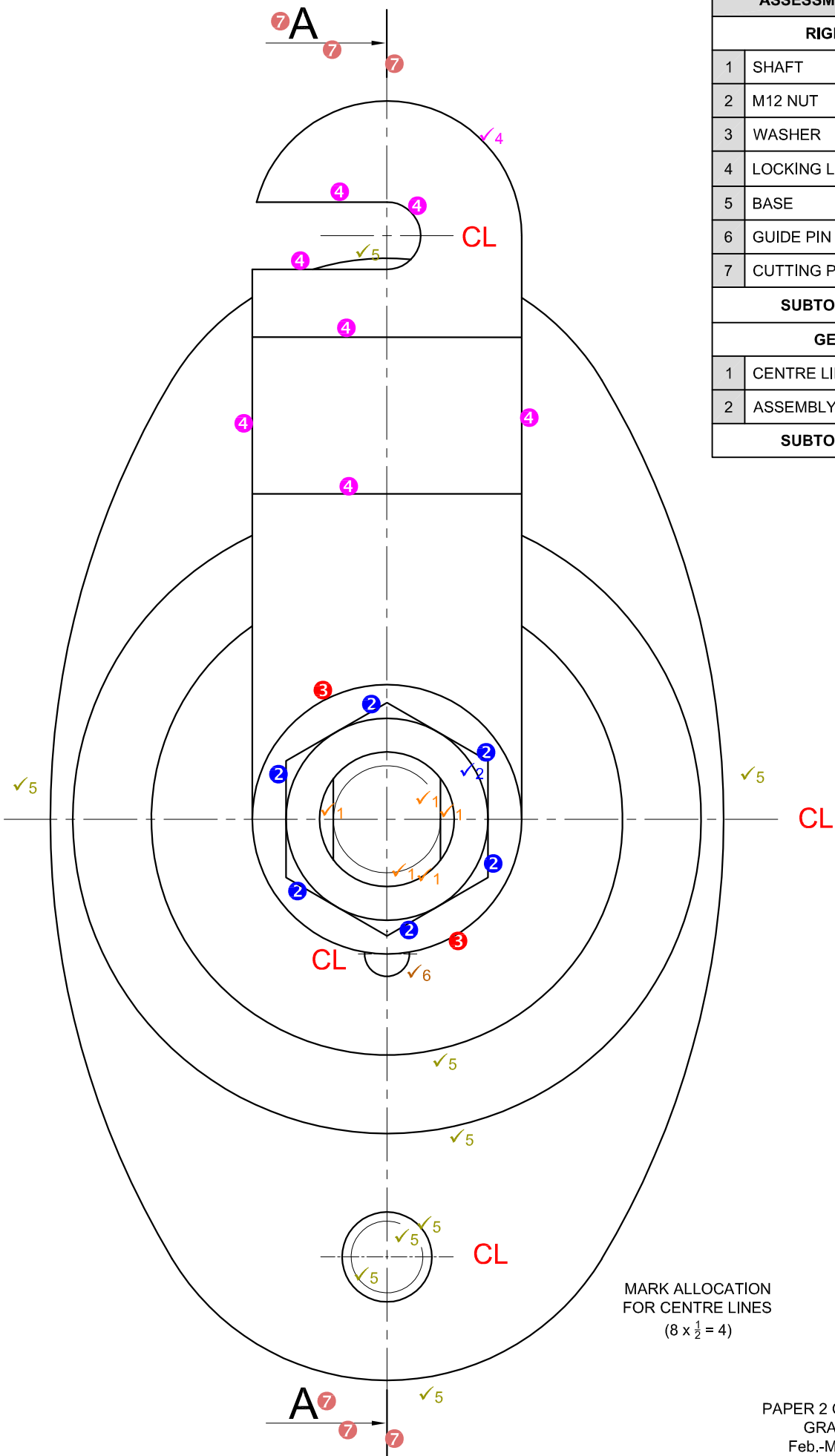


MARK ALLOCATION FOR STUDS  
 $11 \times \frac{1}{2} = 5 \frac{1}{2}$   
 \*IF CORRECTLY REPEATED ON THE OPPOSITE SIDE = +1  
 $5 \frac{1}{2} + 1 = 6 \frac{1}{2}$



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ASSESSMENT CRITERIA		
RIGHT VIEW		
1	SHAFT	5
2	M12 NUT	4
3	WASHER	1
4	LOCKING LEVER	4 ½
5	BASE	9
6	GUIDE PIN	1
7	CUTTING PLANE	3
<b>SUBTOTAL</b>		<b>27 ½</b>
GENERAL		
1	CENTRE LINES	4
2	ASSEMBLY	6
<b>SUBTOTAL</b>		<b>10</b>



MARK ALLOCATION  
FOR CENTRE LINES  
(8 x ½ = 4)

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