



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

ENGINEERING GRAPHICS AND DESIGN P2

NOVEMBER 2016

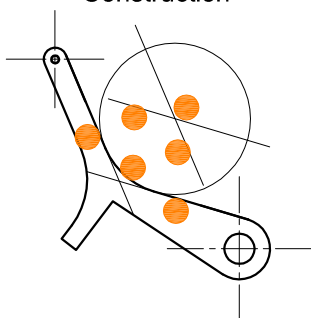
MEMORANDUM

MARKS: 100

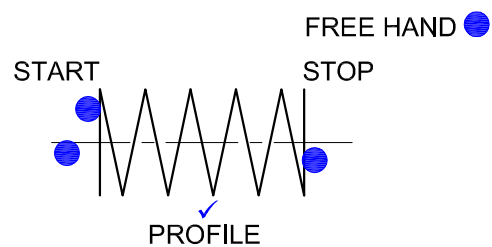
This memorandum consists of 7 pages.

ANSWERS		
1	TO CHECK THE DRAWING	1
2	CAD / AUTOCAD	1
3	1 : 1	1
4	R 3	1
5	STAINLESS STEEL	1
6	CHAMFER	1
7	KNURLING	1
8	(PARTIAL) RIGHT VIEW	1
9	C: Ø12 D: 86 E: 34	3
10	9	1
11	SHOW DETAIL	1
12	6	1
13	PARALLEL	1
14	M4 x 0,8	2
15	8,25	2
16	DOWEL PIN	1
17	<i>See below</i>	3
18		3
19		4
TOTAL		30

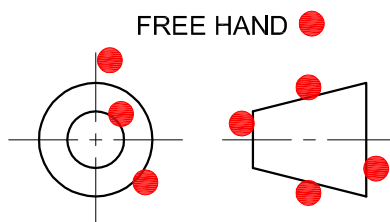
ANSWER 17:
Construction

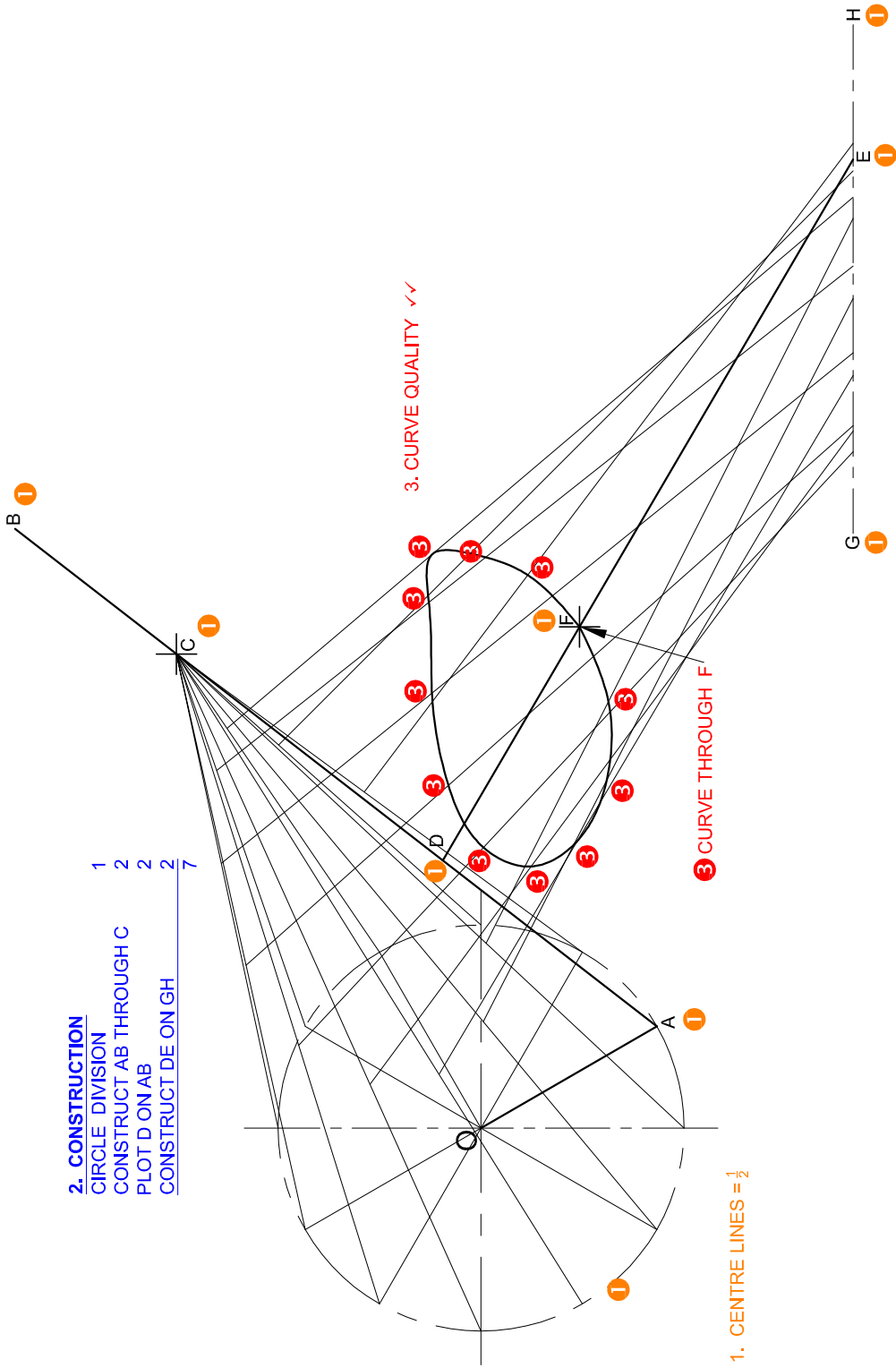


ANSWER 18:
Convention for coil spring



ANSWER 19:
Projection symbol





- 2. CONSTRUCTION**
- CIRCLE DIVISION 1
 - CONSTRUCT AB THROUGH C 2
 - PLOT D ON AB 2
 - CONSTRUCT DE ON GH 2
 - 7**

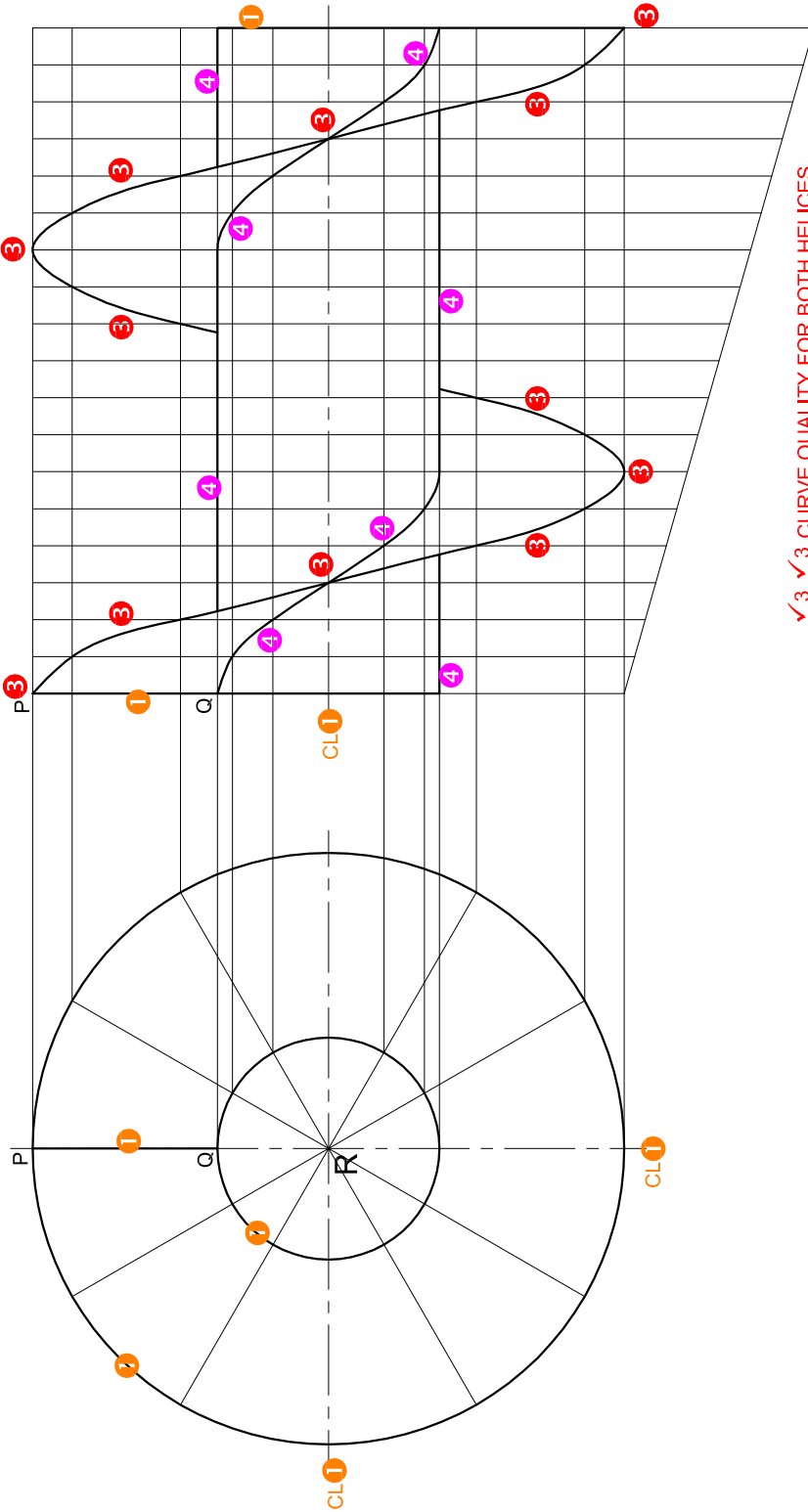
1. CENTRE LINES = $\frac{1}{2}$

3. CURVE QUALITY ✓✓

3 CURVE THROUGH F

ASSESSMENT CRITERIA 2.1	
1	GIVEN 5
2	CONSTRUCTION 7
3	POINTS + CURVE 8
SUBTOTAL 20	

PAPER 2 QUESTION 2.1
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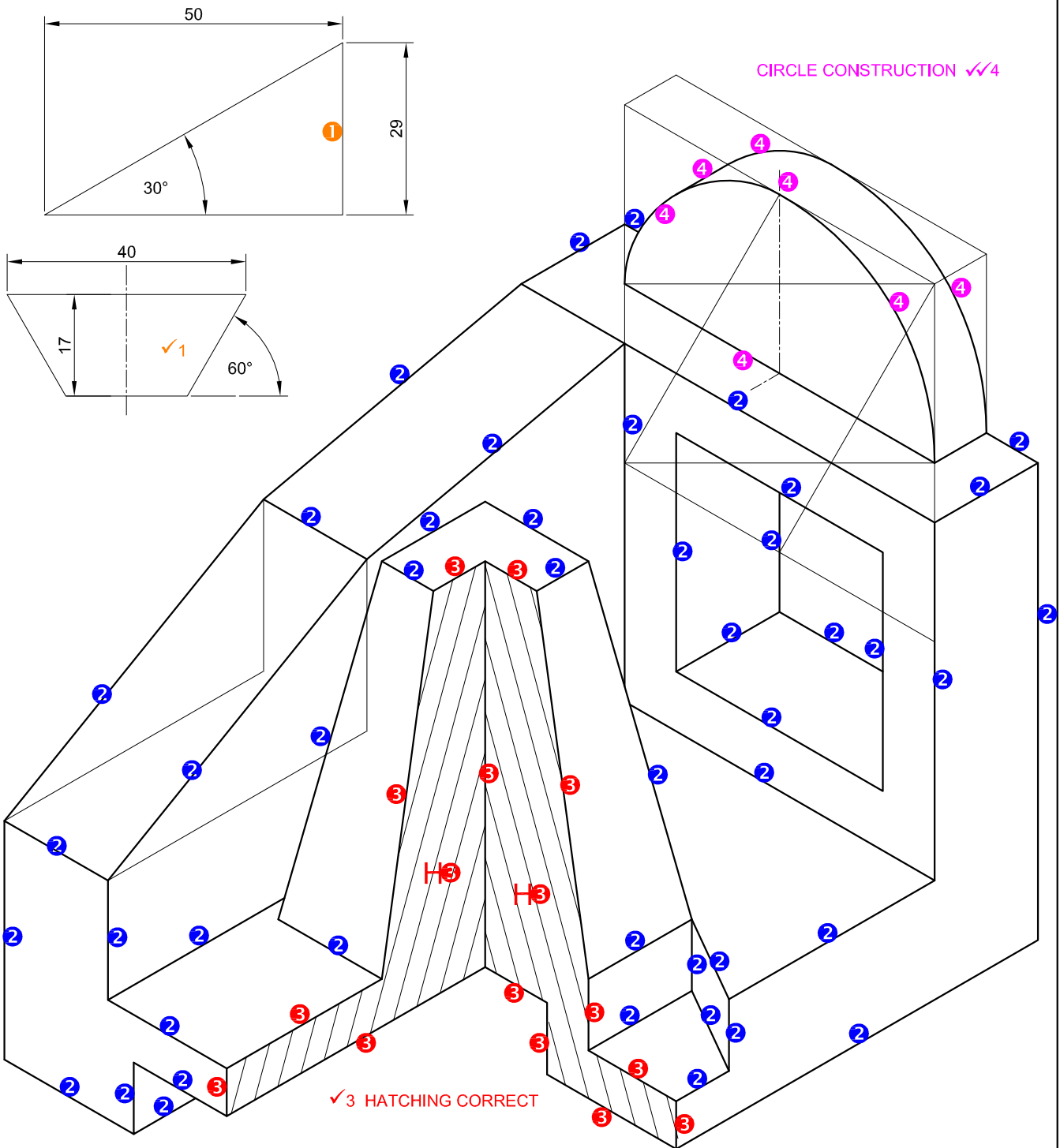
✓ 3 CURVE QUALITY FOR BOTH HELICES

2. CONSTRUCTION

- CIRCLE DIVISION 1
- PITCH + LINE DIVISION 2
- VERTICAL DIVISION 1
- HORIZONTAL PROJECTION 1
- DIRECTION 1
- 6

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ASSESSMENT CRITERIA 2.2	
1	GIVEN + CENTRE LINES 4
2	CONSTRUCTION 6
3	OUTER HELIX + CURVE QUALITY 8
4	INNER HELIX + SHAFT 4
SUBTOTAL 22	



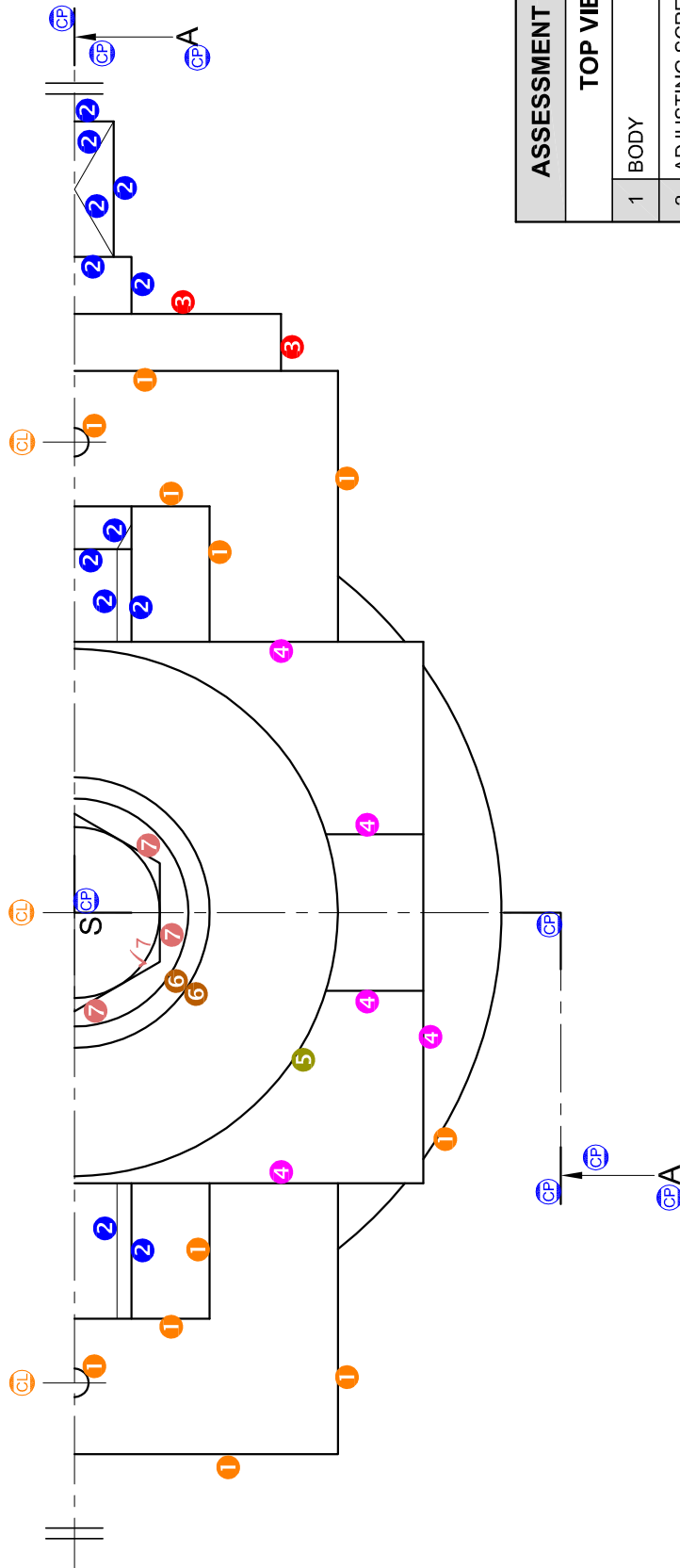
CIRCLE CONSTRUCTION ✓✓4

✓3 HATCHING CORRECT

✓1 PLACING ON S

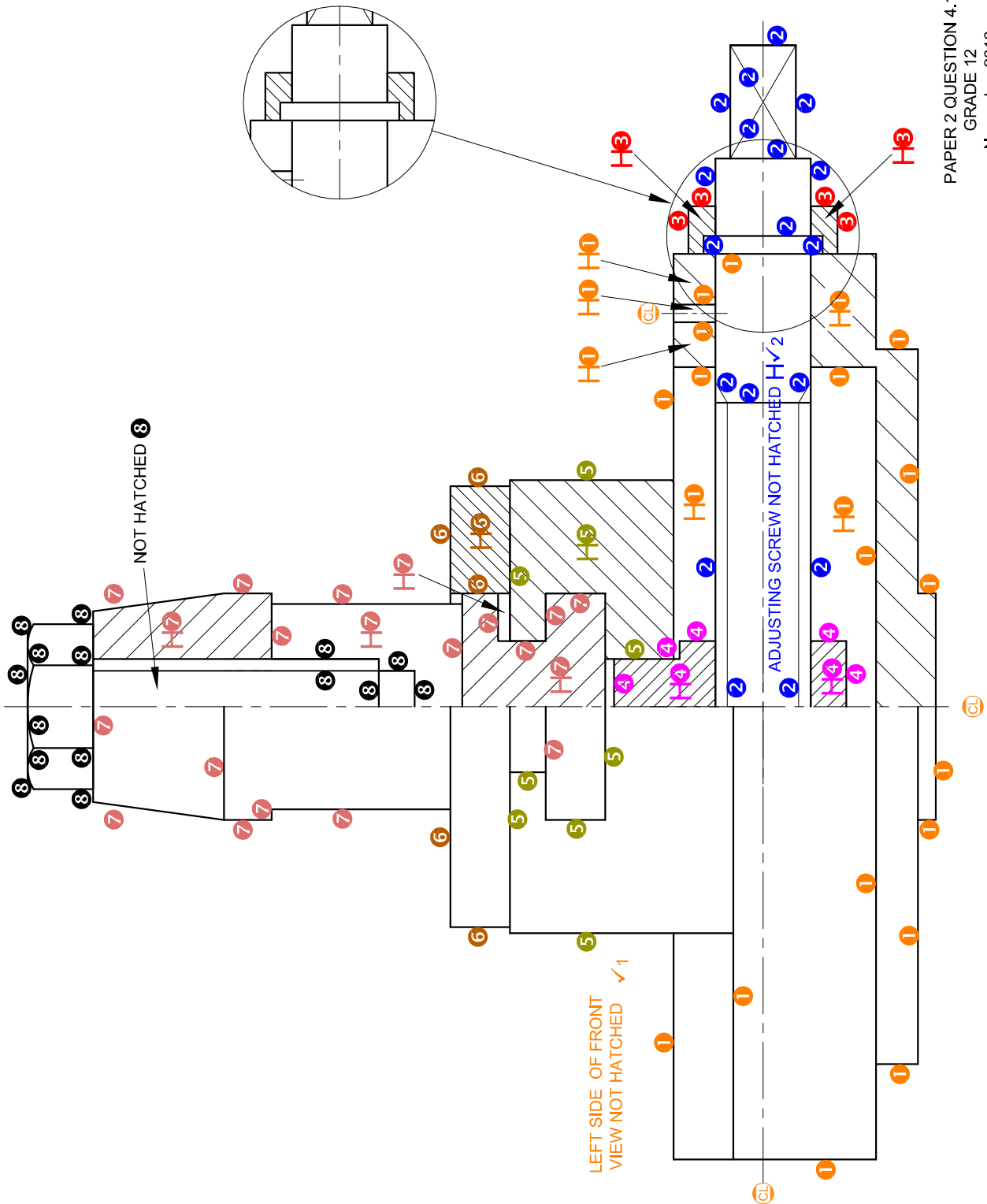
ASSESSMENT CRITERIA		
1	AUX. VIEW + PLACING	2 1/2
2	ISOMETRIC + NON-ISOMETRIC LINES	23
3	SECTIONED SURFACES	9
4	ISOMETRIC CIRCLES + CIRCLE CONSTR'	5 1/2
TOTAL		40

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ASSESSMENT CRITERIA		
TOP VIEW		
1	BODY	5 1/2
2	ADJUSTING SCREW	6
3	PLATE	1
4	SLIDE BLOCK	2 1/2
5	SPACER	1 1/2
6	TOOL HOLDER	1
7	M16 BOLT	2 1/2
SUBTOTAL		19

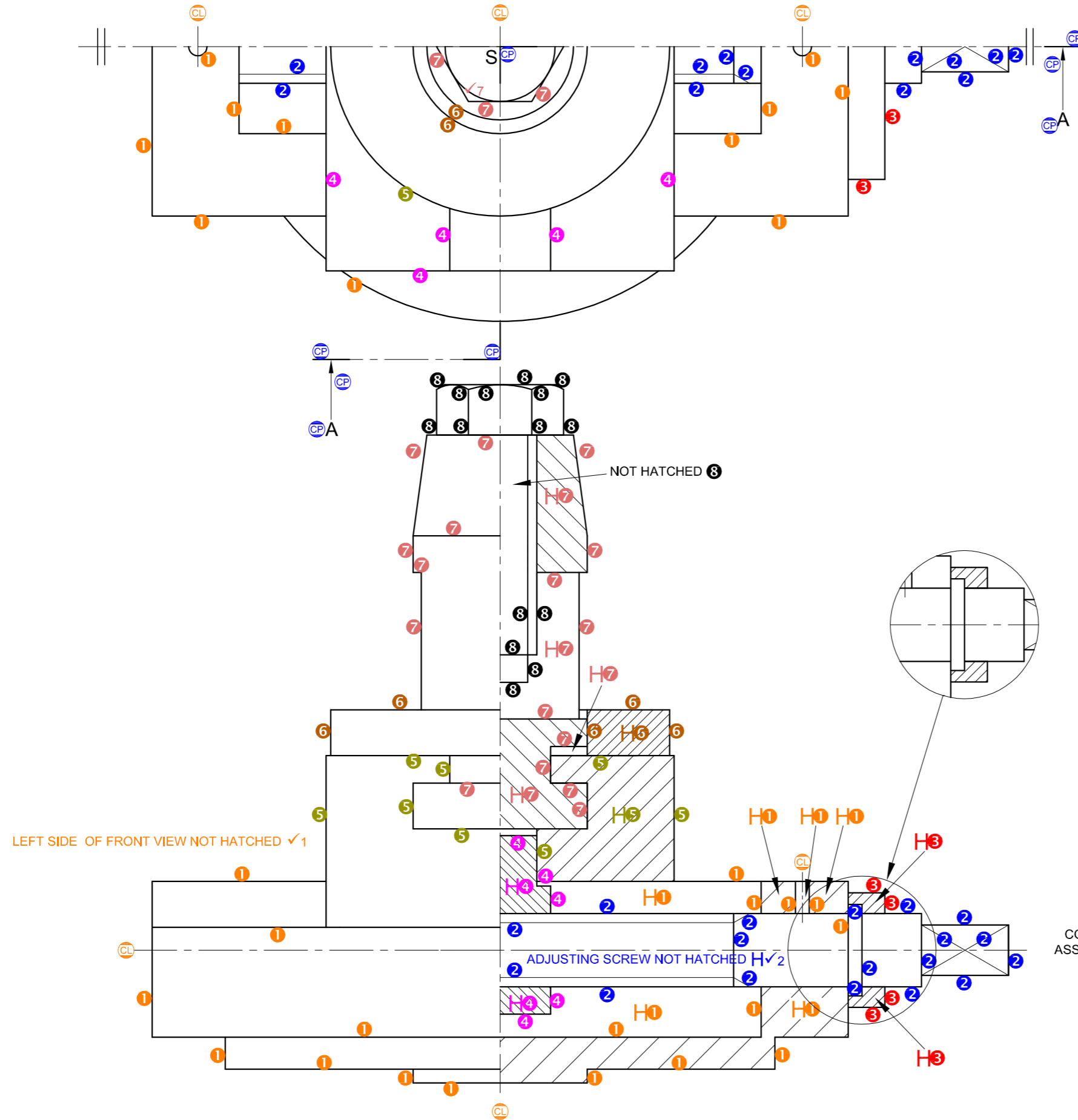
PAPER 2 QUESTION 4.2
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1 MARK FOR EVERY COMPONENT CORRECTLY ASSEMBLED (8 PARTS - 1) = 7

ASSESSMENT CRITERIA	
SECTIONAL FRONT VIEW	
1 BODY	13
2 ADJUSTING SCREW	10
3 PLATE	3
4 SLIDE GUIDE	3 1/2
5 SLIDE BLOCK	4 1/2
6 SPACER	3
7 TOOL HOLDER	10
8 M16 BOLT	8
SUBTOTAL	55

PAPER 2 QUESTION 4.1
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1 MARK FOR EVERY COMPONENT CORRECTLY ASSEMBLED (8 PARTS - 1) = 7

PAPER 2 QUESTION 4
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FOR OFFICIAL USE ONLY

INCORRECT SCALE		
INCORRECT HATCHING		
PARTS NOT ASSEMBLED		
TOTAL		

ASSESSMENT CRITERIA

TOP VIEW

		POSSIBLE	OBTAINED	SIGN	MODERATED
1	BODY	5 ½			
2	ADJUSTING SCREW	6			
3	PLATE	1			
4	SLIDE BLOCK	2 ½			
5	SPACER	½			
6	TOOL HOLDER	1			
7	M16 BOLT	2 ½			
SUBTOTAL		19			

SECTIONAL FRONT VIEW

1	BODY	13			
2	ADJUSTING SCREW	10			
3	PLATE	3			
4	SLIDE GUIDE	3 ½			
5	SLIDE BLOCK	4 ½			
6	SPACER	3			
7	TOOL HOLDER	10			
8	M16 BOLT	8			
SUBTOTAL		55			

GENERAL

1	CENTRE LINES	3			
2	CUTTING PLANE	4			
3	ASSEMBLY	7			
SUBTOTAL		14			
TOTAL		88			

PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					