



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

ENGINEERING GRAPHICS AND DESIGN P2

MAY/JUNE 2024

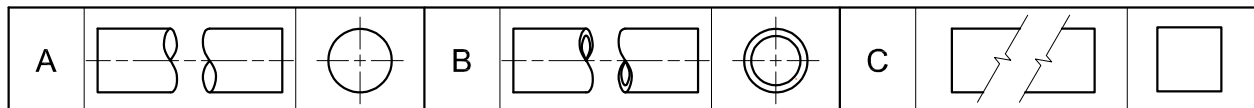
MARKING GUIDELINES

MARKS: 100

These marking guidelines consist of 7 pages.

ANSWERS		
1	SIPHO	1
2	www.mecdrow.co.za	1
3	JJVWBJ-6	1
4	1500	1
5	CAD	1
6	2	1
7	18	1
8	1 / ONE	1
9	4	1
10	ROUNDING	1
11	C: 39 D: 28 E: 106 F: Ø38 G: 90	5
12	35°, 36°, 37°	1
13	M14 x 1,5	2
14	MAX. = 162,02 MIN. = 161,83	2
15	9	1
16	Q: T	2
	R: V	
17	AUXILIARY VIEW	1
18	DIRECTION OF LAY/ CIRCULAR MACHINING	1
19	MATERIAL REMOVAL NOT PERMITTED	1
20	See below	4
TOTAL		30

ANSWER 20



FREEHAND ①

CIRCLE ①

2 x CL ①

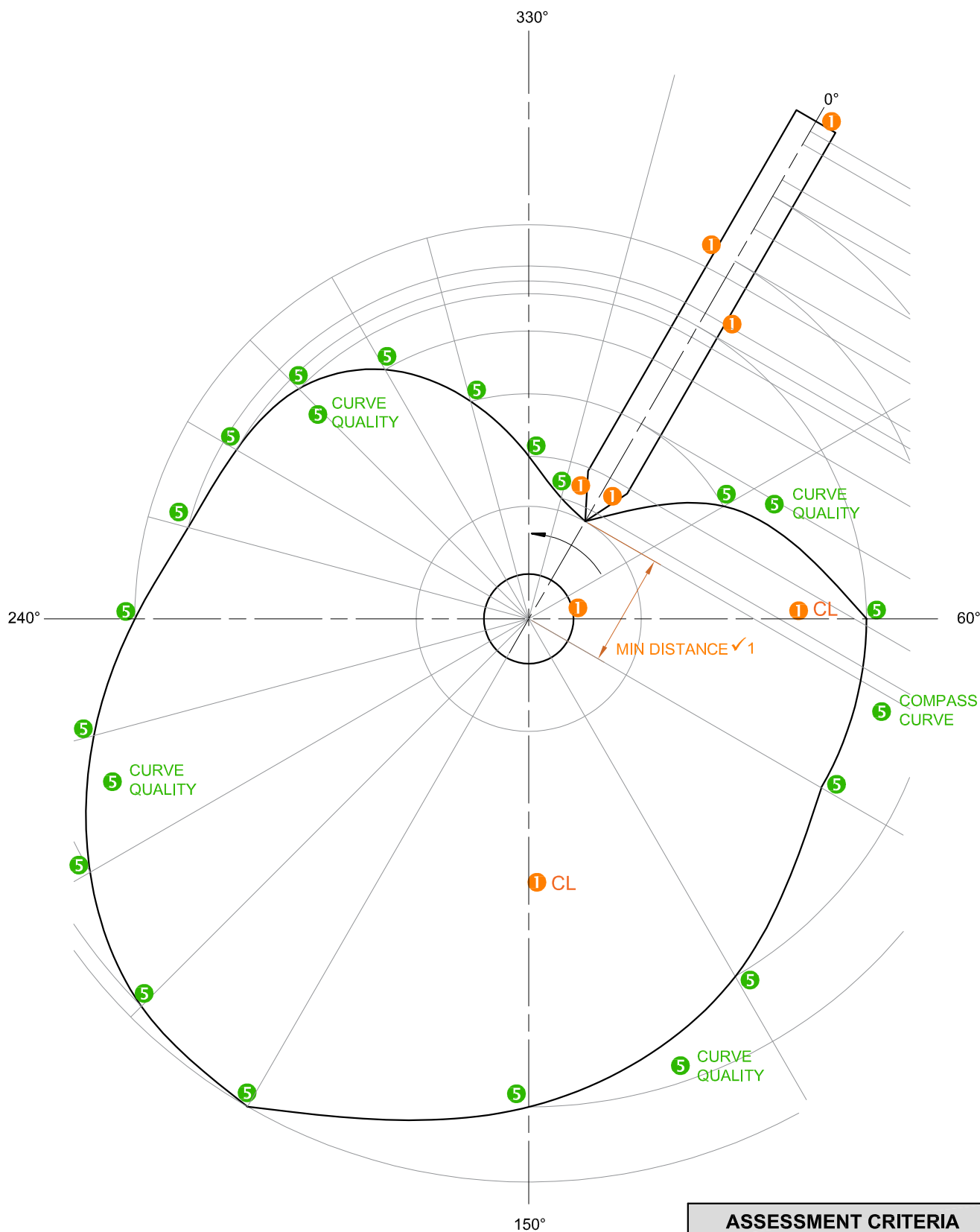
OUTER CIRCLE ①

INNER CIRCLE ①

2 x CL ①

SQUARE / RECTANGLE ✓₁

PAPER 2 QUESTION 1
 GRADE 12
 DBE MAY/JUNE 2024
 MARKING GUIDELINES

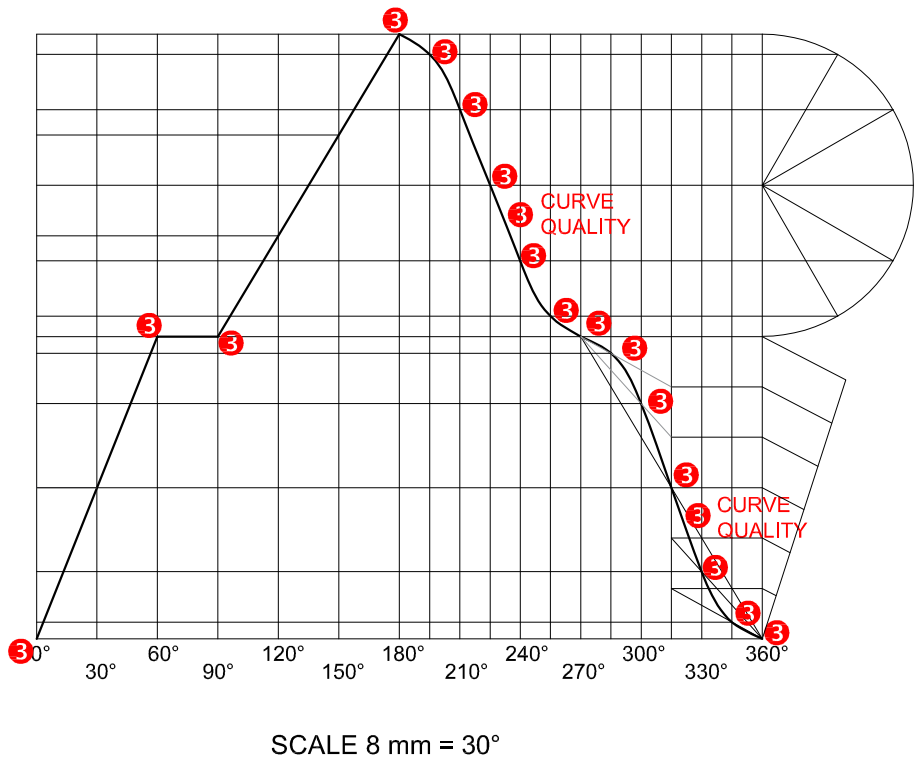


4. CAM CONSTRUCTION

- GIVEN POSITION EQUALS 0° 1
- CIRCLE DIVISION 1
- PROJECTION/TRANSFER FROM GRAPH 1
- ARC PROJECTION/TRANSFER 1
- ARROW INDICATING ANTI-CLOCKWISE 1
- TOTAL 5**

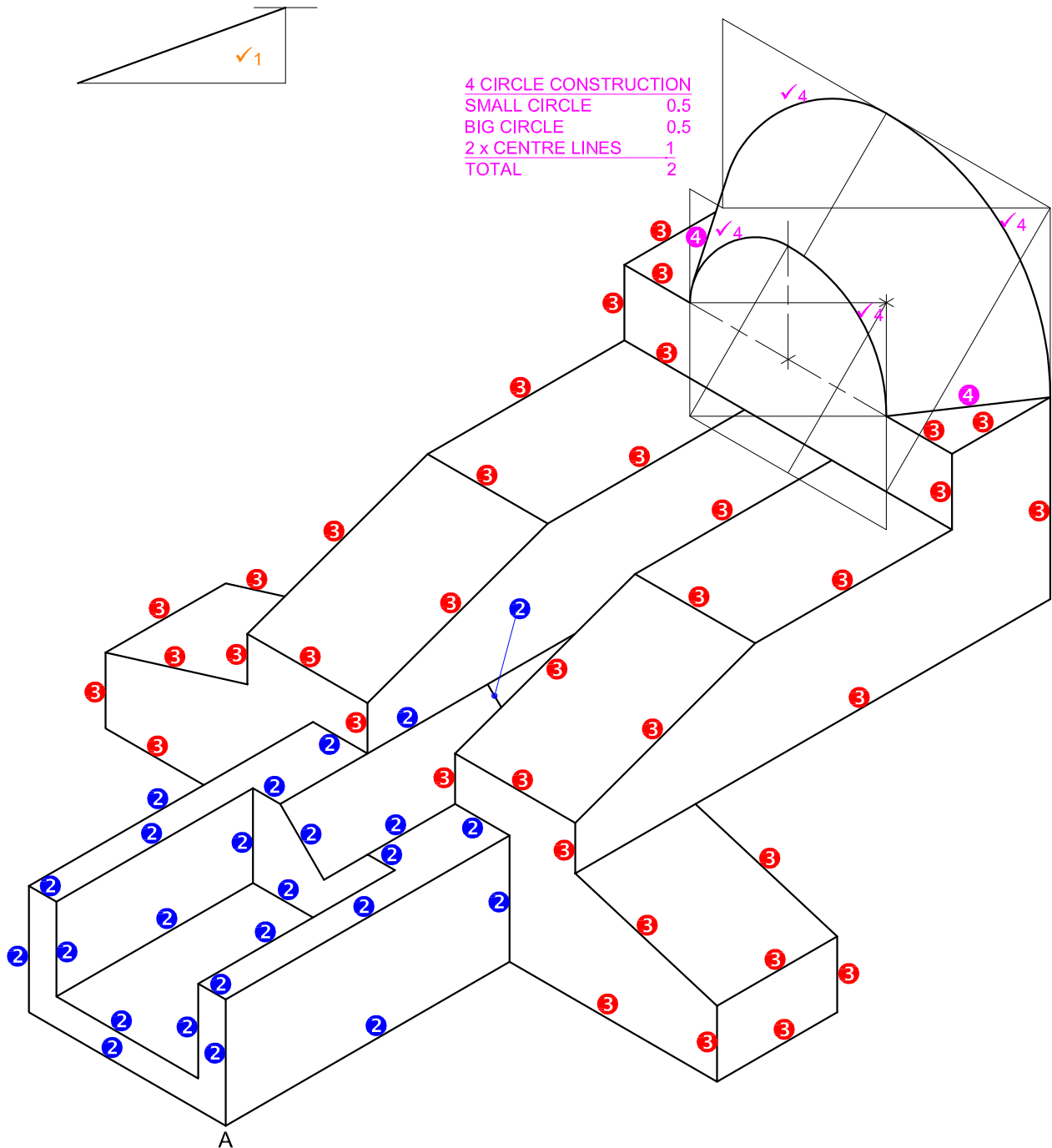
ASSESSMENT CRITERIA		
1	GIVEN + MINIMUM DISTANCE + CL	5
4	CAM CONSTRUCTION	5
5	PLOTTING + CAM PROFILE	11
TOTAL		21

PAPER 2 QUESTION 2
GRADE 12
DBE MAY/JUNE 2024
MARKING GUIDELINES



<u>2. GRAPH CONSTRUCTION</u>		
• BASE LENGTH 96 mm	1	
• 12 EQUAL DIVISIONS	1	
• TOTAL HEIGHT 80 mm	0.5	
<u>SIMPLE HARMONIC MOTION</u>		
• SEMI CIRCLE	0.5	
• CIRCLE DIVISIONS	0.5	
• 15° SUBDIVISIONS	0.5	
• PROJECTION	0.5	
<u>UNIFORM ACCELERATION + RETARDATION</u>		
• LINE DIVISION	0.5	
• 15° SUBDIVISIONS	0.5	
• FIRST $\frac{1}{2}$ CONSTRUCTION	0.5	
• SECOND $\frac{1}{2}$ CONSTRUCTION	0.5	
<u>LABEL</u>	<u>0.5</u>	
<u>TOTAL</u>	<u>7</u>	

ASSESSMENT CRITERIA		
2	GRAPH CONSTRUCTION	7
3	PLOTTING GRAPH + GRAPH CURVES	9
TOTAL		16

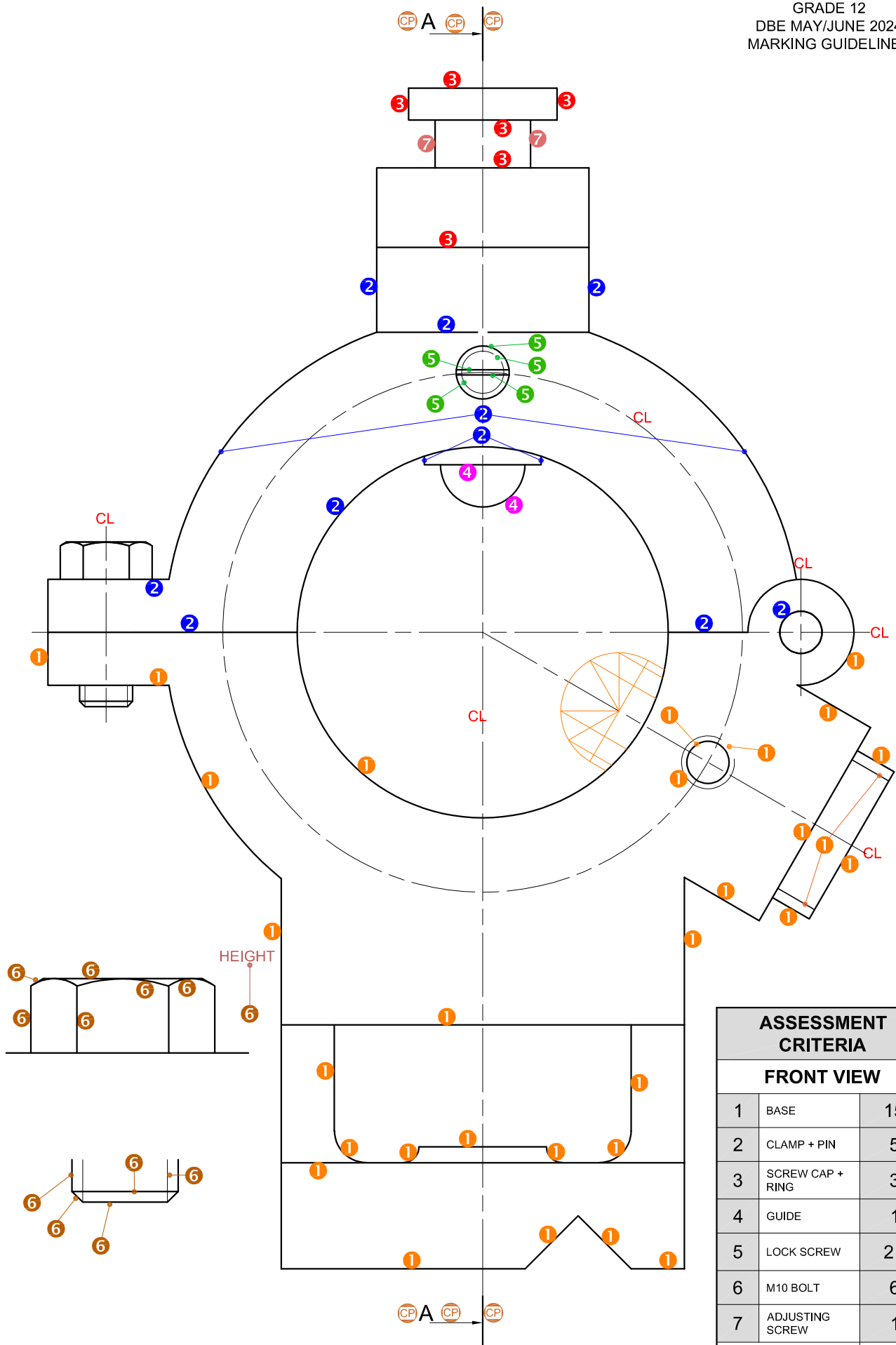


✓1 ORIENTATION / PLACEMENT

ASSESSMENT CRITERIA		
1	PLACING + AUX. VIEW	2
2	FRONT PORTION	12 $\frac{1}{2}$
3	UPPER PORTION	18 $\frac{1}{2}$
4	ARCS + CONSTR. + CL	7
TOTAL		40

PAPER 2 QUESTION 3
GRADE 12
DBE MAY/JUNE 2024
MARKING GUIDELINES

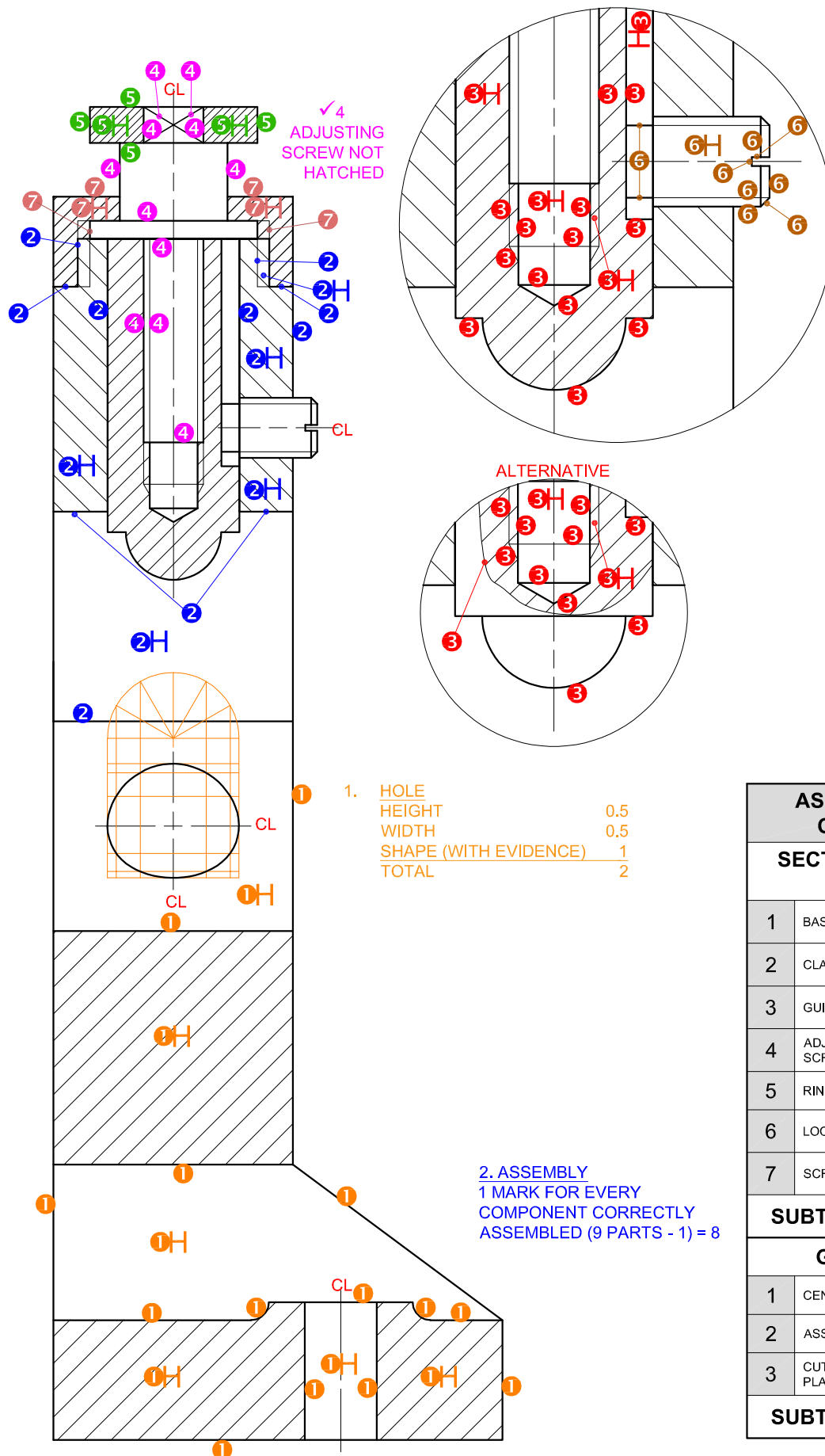
PAPER 2 QUESTION 4
GRADE 12
DBE MAY/JUNE 2024
MARKING GUIDELINES



**ASSESSMENT
CRITERIA**

FRONT VIEW

1	BASE	15
2	CLAMP + PIN	5
3	SCREW CAP + RING	3
4	GUIDE	1
5	LOCK SCREW	2 $\frac{1}{2}$
6	M10 BOLT	6
7	ADJUSTING SCREW	1
SUBTOTAL		33 $\frac{1}{2}$



✓ 4
ADJUSTING
SCREW NOT
HATCHED

ALTERNATIVE

1. HOLE
HEIGHT 0.5
WIDTH 0.5
SHAPE (WITH EVIDENCE) 1
TOTAL 2

2. ASSEMBLY
1 MARK FOR EVERY
COMPONENT CORRECTLY
ASSEMBLED (9 PARTS - 1) = 8

1. CENTRE LINE MARK ALLOCATION
SANS COMPLIANT TYPE 1
CENTRE LINES (1 - 3 = 0,5; 4 - 7 = 1; 8 & 9 = 2; 10 & 11 = 3) 3
4

ASSESSMENT CRITERIA

SECTIONAL LEFT VIEW

1	BASE	12
2	CLAMP	7
3	GUIDE	8 $\frac{1}{2}$
4	ADJUSTING SCREW	6 $\frac{1}{2}$
5	RING	3
6	LOCK SCREW	4 $\frac{1}{2}$
7	SCREW CAP	3

SUBTOTAL 44 $\frac{1}{2}$

GENERAL

1	CENTRE LINES	4
2	ASSEMBLY	8
3	CUTTING PLANE A-A	3

SUBTOTAL 15

PAPER 2 QUESTION 4
GRADE 12
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