



# basic education

---

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

## **SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS**

**ENGINEERING GRAPHICS AND DESIGN P2**

**MAY/JUNE 2024**

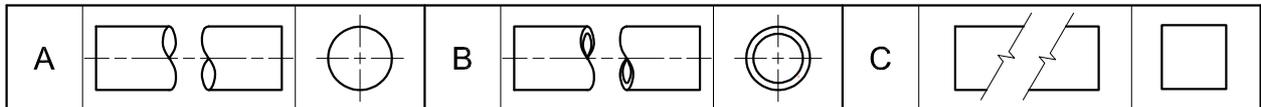
**MARKING GUIDELINES**

**MARKS: 100**

**These marking guidelines consist of 7 pages.**

ANSWERS		
1	SIPHO	1
2	www.mecdraw.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
<b>TOTAL</b>		<b>30</b>

ANSWER 20



FREEHAND 1

CIRCLE 1

OUTER CIRCLE 1

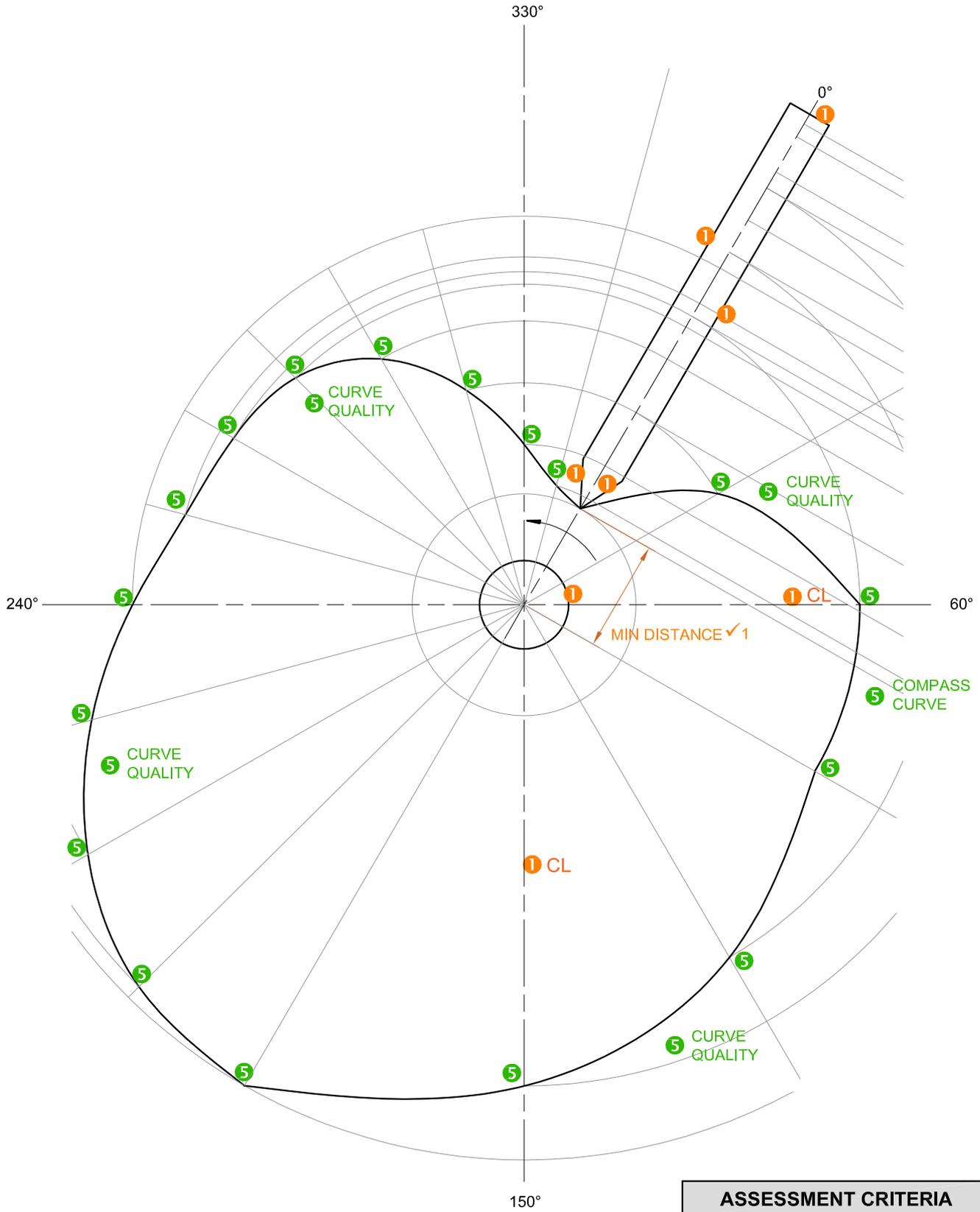
SQUARE / RECTANGLE ✓1

2 x CL 1

INNER CIRCLE 1

2 x CL 1

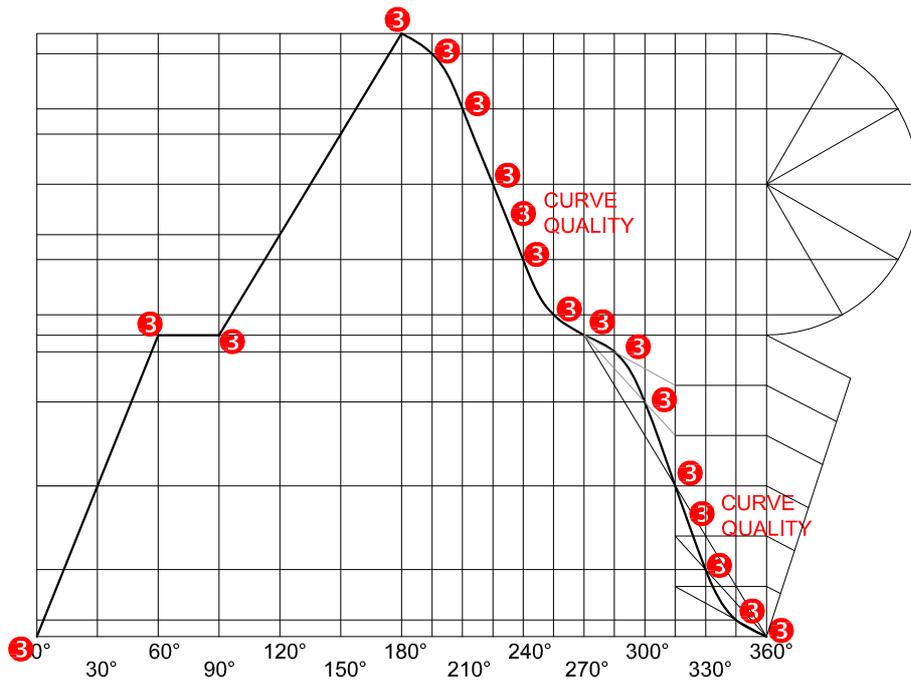
PAPER 2 QUESTION 1  
 GRADE 12  
 DBE MAY/JUNE 2024  
 MARKING GUIDELINES



- 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
<b>TOTAL</b>		<b>21</b>

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



SCALE 8 mm = 30°

2. GRAPH CONSTRUCTION

- BASE LENGTH 96 mm 1
- 12 EQUAL DIVISIONS 1
- TOTAL HEIGHT 80 mm 0.5

SIMPLE HARMONIC MOTION

- SEMI CIRCLE 0.5
- CIRCLE DIVISIONS 0.5
- 15° SUBDIVISIONS 0.5
- PROJECTION 0.5

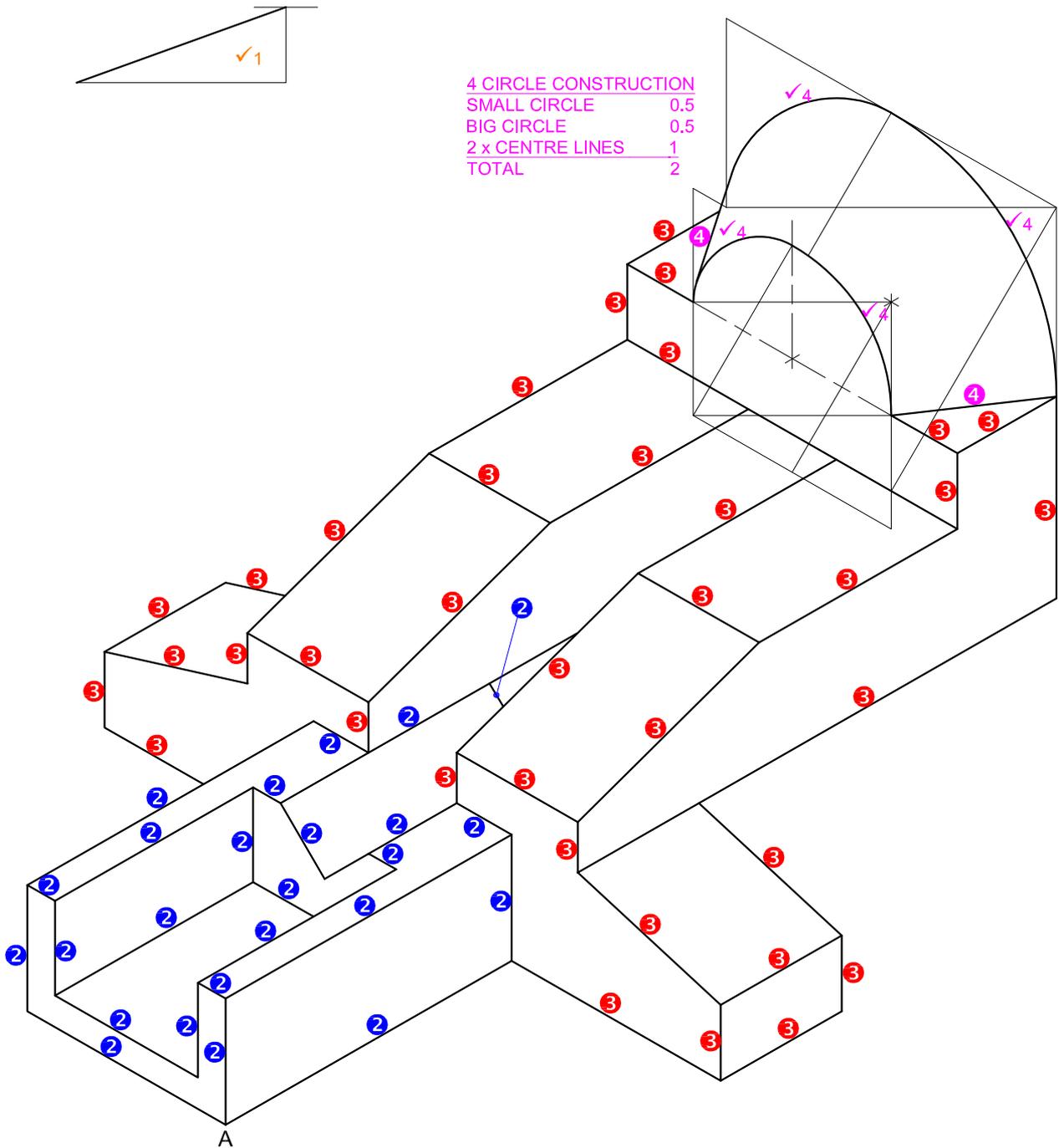
UNIFORM ACCELERATION + RETARDATION

- LINE DIVISION 0.5
- 15° SUBDIVISIONS 0.5
- FIRST 1/2 CONSTRUCTION 0.5
- SECOND 1/2 CONSTRUCTION 0.5

LABEL 0.5  
TOTAL 7

ASSESSMENT CRITERIA		
2	GRAPH CONSTRUCTION	7
3	PLOTTING GRAPH + GRAPH CURVES	9
<b>TOTAL</b>		<b>16</b>

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

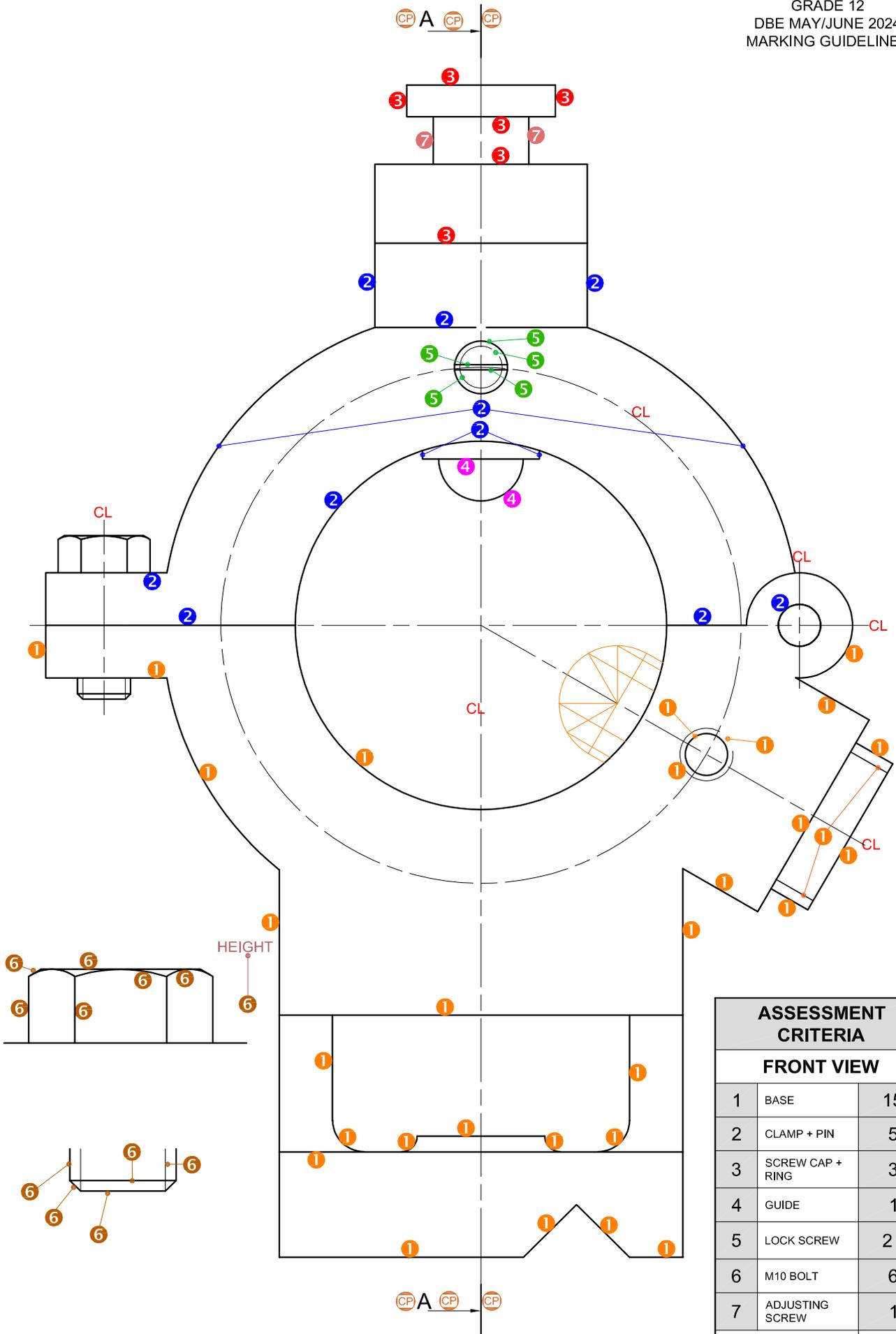


✓1 ORIENTATION / PLACEMENT

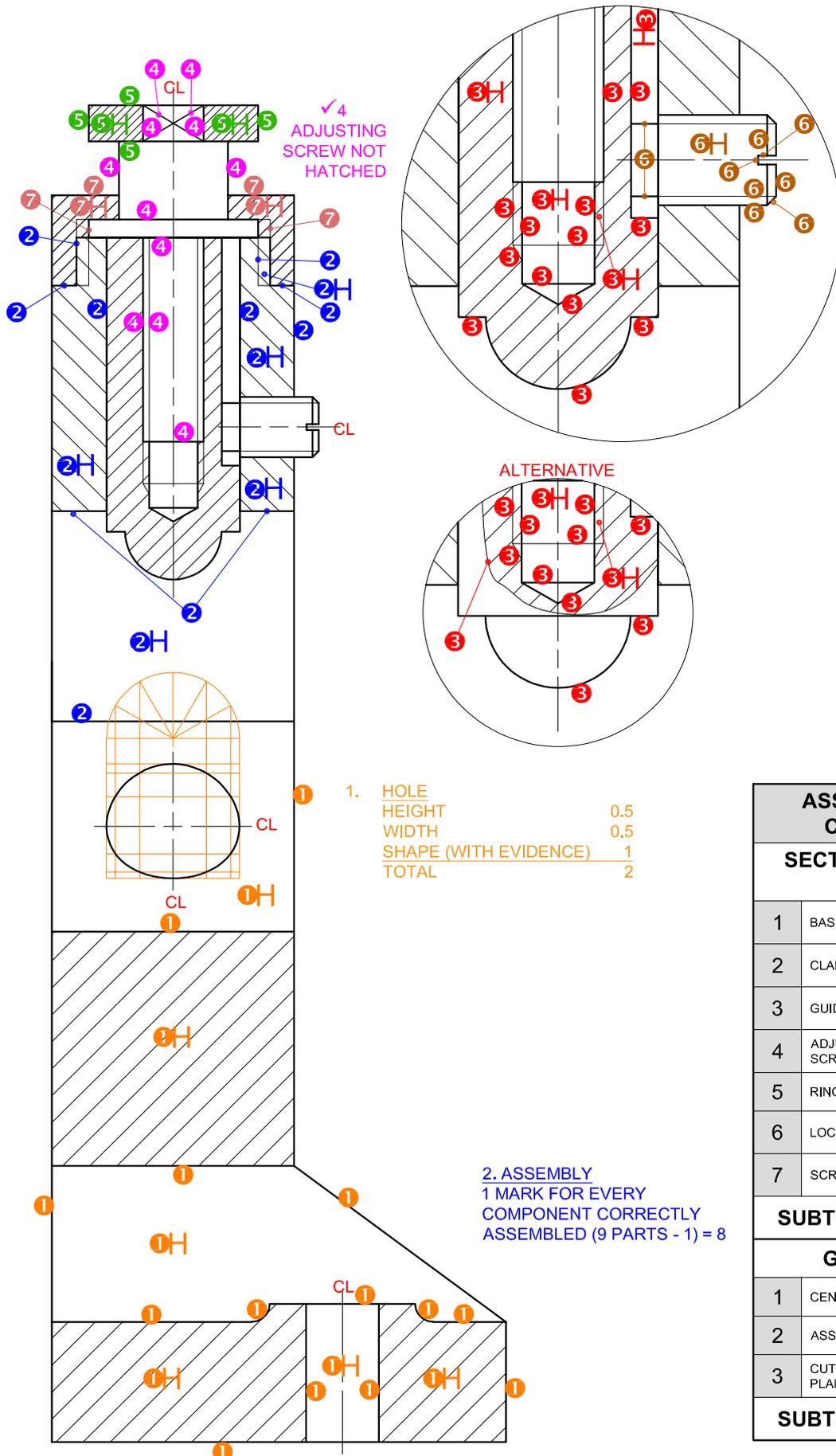
ASSESSMENT CRITERIA		
1	PLACING + AUX. VIEW	2
2	FRONT PORTION	12 <sup>1</sup> / <sub>2</sub>
3	UPPER PORTION	18 <sup>1</sup> / <sub>2</sub>
4	ARCS + CONSTR. + CL	7
<b>TOTAL</b>		<b>40</b>

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 1/2
6	M10 BOLT	6
7	ADJUSTING SCREW	1
<b>SUBTOTAL</b>		<b>33 1/2</b>



✓ 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 1/2
4	ADJUSTING SCREW	6 1/2
5	RING	3
6	LOCK SCREW	4 1/2
7	SCREW CAP	3
<b>SUBTOTAL</b>		<b>44 1/2</b>
GENERAL		
1	CENTRE LINES	4
2	ASSEMBLY	8
3	CUTTING PLANE A-A	3
<b>SUBTOTAL</b>		<b>15</b>

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