



# basic education

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

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P2**

**NOVEMBER 2024**

**MARKING GUIDELINES**

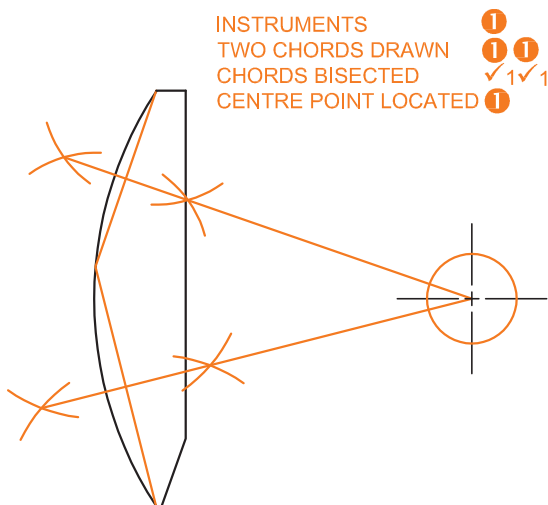
**MARKS: 100**

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

ANSWERS		
1	MILLIMETRES / mm	1
2	21-05-2024	1
3	PIN VICE	1
4	023 685 1857	1
5	RIGHT VIEW	1
6	WOOD	1
7	4 : 5	1
8	5	1
9	80	1
10	REVOLVED SECTION	1
11	SUCCESSIVE SECTIONS	1
12	HALF SECTION	1
13	11	1
14	ADJUSTING CONE	1
15	C: M5                      D: 18	2
16	E: 40°	1
17	MAXIMUM: 8,25	1
	MINIMUM: 7,7	1
18		4
19	See below	4
20		3
TOTAL		30

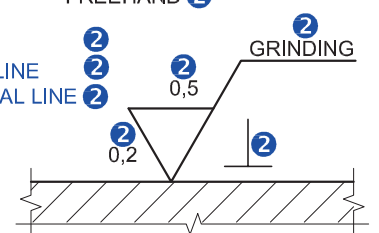
ANSWER 18

INSTRUMENTS  
TWO CHORDS DRAWN  
CHORDS BISECTED  
CENTRE POINT LOCATED



ANSWER 19 FREEHAND 2

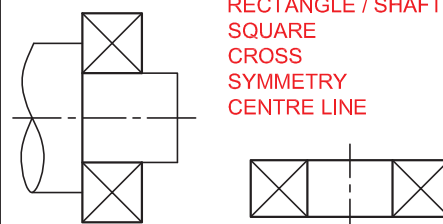
SYMBOL  
TRIANGLE  
INCLINED LINE  
HORIZONTAL LINE



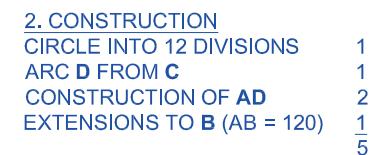
ANSWER 20

FREEHAND 3

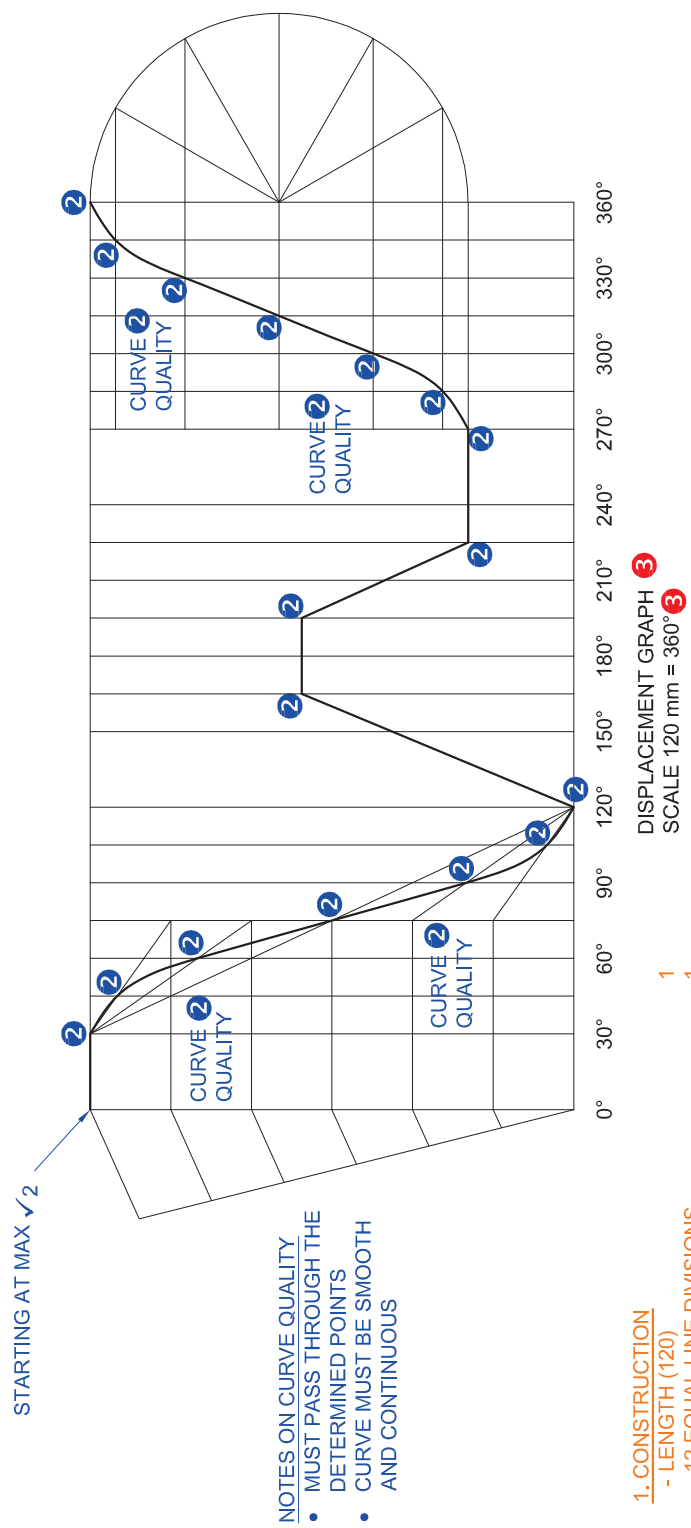
RECTANGLE / SHAFT  
SQUARE  
CROSS  
SYMMETRY  
CENTRE LINE



PAPER 2 QUESTION 1  
GRADE 12  
NOVEMBER 2024  
MARKING GUIDELINES



PAPER 2 QUESTION 2.1  
GRADE 12  
NOVEMBER 2024  
MARKING GUIDELINES



1. CONSTRUCTION
- LENGTH (120)

- 12 EQUAL LINE DIVISIONS
- UNIFORM ACCELERATION. + RETARDATION
- 15° DIVISIONS

- HEIGHT DIVISION

- FIRST HALF CONSTRUCTION

- SECOND HALF CONSTRUCTION
- SIMPLE HARMONIC MOTION
- SEMI CIRCLE IN THE CORRECT POSITION

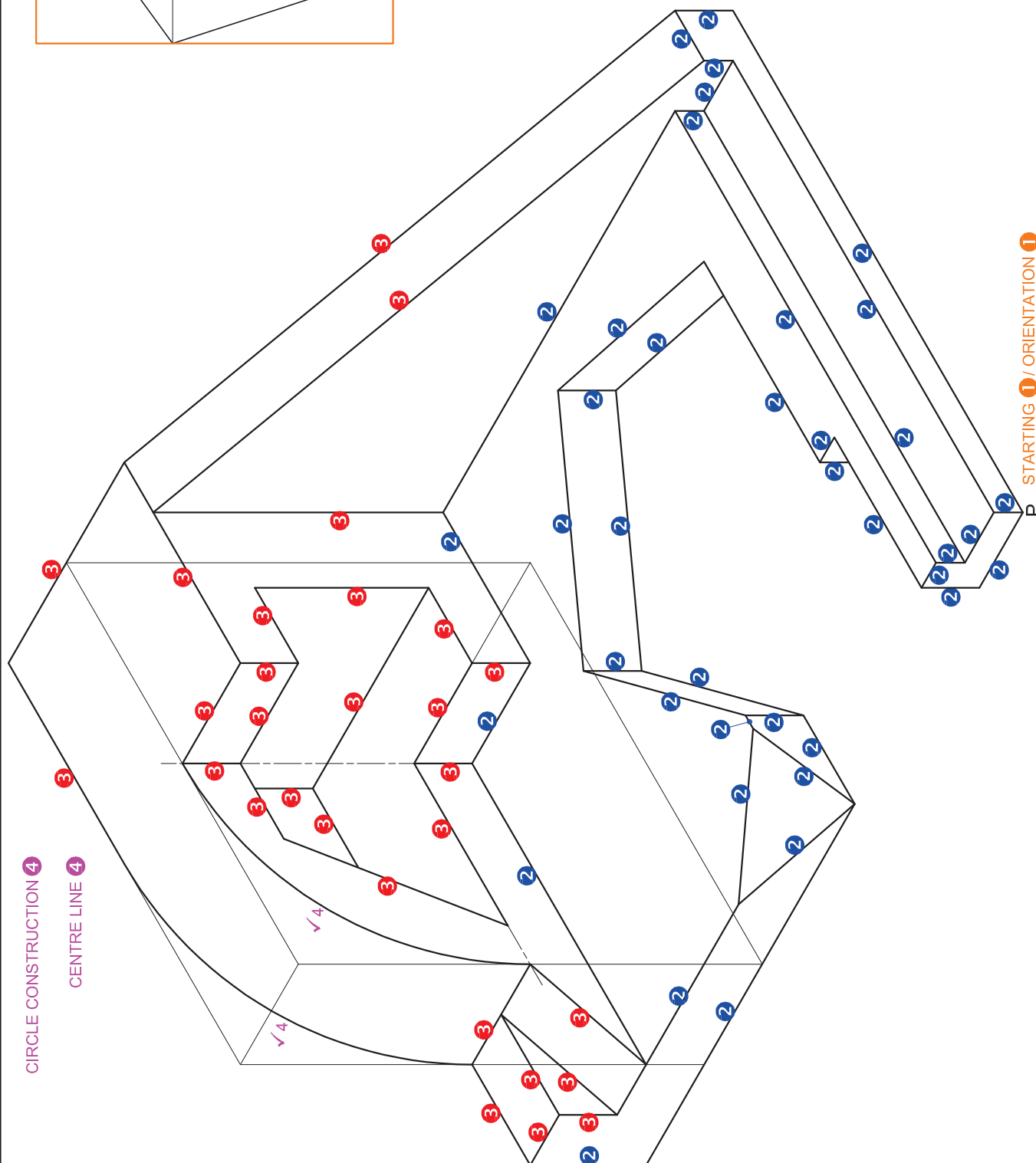
- CIRCLE DIVISION

- ADDITIONAL 15° DIVISIONS

- PROJECTION
- TOTAL
- 6.0

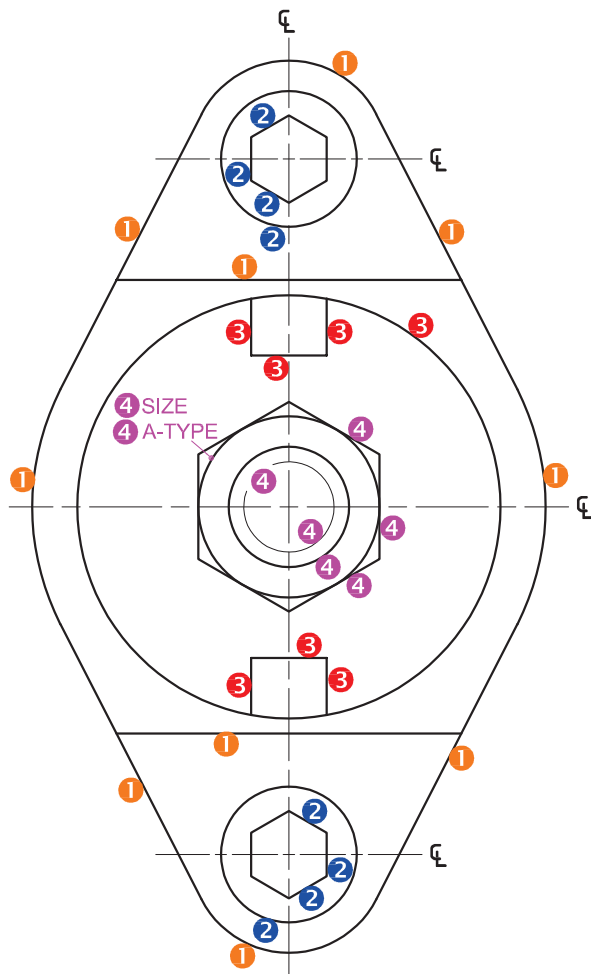
ASSESSMENT CRITERIA 2.2		
1	CONSTRUCTION	6
2	POINTS + CURVE	11 $\frac{1}{2}$
3	LABELS	1
SUBTOTAL 2.2		18 $\frac{1}{2}$

PAPER 2 QUESTION 2.2  
GRADE 12  
NOVEMBER 2024  
MARKING GUIDELINES



ASSESSMENT CRITERIA	
1	PLACING + AUX. VIEW 2 $\frac{1}{2}$
2	BASE + PENTAGON 20
3	UPPER PORTION 14 $\frac{1}{2}$
4	CIRCLES + CONSTR. + CL 3
TOTAL 40	

PAPER 2 QUESTION 3  
GRADE 12  
NOVEMBER 2024  
MARKING GUIDELINE



ASSESSMENT CRITERIA		
RIGHT VIEW		
1	RIGHT-END PLATE	5
2	BOLTS	4
3	COUPLING	3 <sup>1</sup> / <sub>2</sub>
4	M16 NUT	4
SUBTOTAL		16 <sup>1</sup> / <sub>2</sub>

PAPER 2 QUESTION 4  
GRADE 12  
NOVEMBER 202-  
MARKING GUIDELINE

Technical drawing of a piston and rod assembly. The drawing includes a main assembly view, a half-sectional front view, and several detail views. Marking numbers (1-8) are placed throughout the drawing to indicate specific features and components. Callouts include: 'PISTON SEAL MARK ALLOCATION', 'ROD GUIDE ALTERNATIVE', 'ENLARGED BOLT HEAD MARK ALLOCATION & ALTERNATIVE', 'SAME AS RIGHT VIEW', 'ROD NOT SECTIONED H ✓ 4', 'CENTRE LINE ✓ 2', 'PAPER 2 QUESTION 4 GRADE 12 November 2024 MARKING GUIDELINE', and 'PAPER 2 QUESTION 4 GRADE 12 November 2024 MARKING GUIDELINE'.

ASSESSMENT CRITERIA	
HALF-SECTIONAL FRONT VIEW	
1	LEFT-END PLATE 10 1/2
2	CYLINDER HOUSING 5
3	RIGHT-END PLATE 9
4	CONNECTING ROD + PISTON + SEAL 11
5	ROD GUIDE 3
6	COUPLING 6
7	BOLTS 14
8	M16 NUT 4
SUBTOTAL 62 1/2	
GENERAL	
1	CENTRE LINES 3
2	ASSEMBLY 10
SUBTOTAL 13	

PAPER 2 QUESTION 4  
GRADE 12  
November 2024  
MARKING GUIDELINE

1. CENTRE LINES ( )  
SANS COMPLIANT  
CENTRE LINES (1 - 3 = 0.5; 4 - 6 = 1; 7 - 8 = 2)

2. ASSEMBLY  
1 MARK FOR EVERY COMPONENT CORRECTLY ASSEMBLED (11 PARTS - 1) = 10