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SA EXAM PAPERS

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Proudly South African



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 ①
 TWO CHORDS DRAWN ① ①
 CHORDS BISECTED ✓ 1 ✓ 1
 CENTRE POINT LOCATED ①

ANSWER 19 FREEHAND ②

SYMBOL ②
 TRIANGLE ②
 INCLINED LINE ②
 HORIZONTAL LINE ②

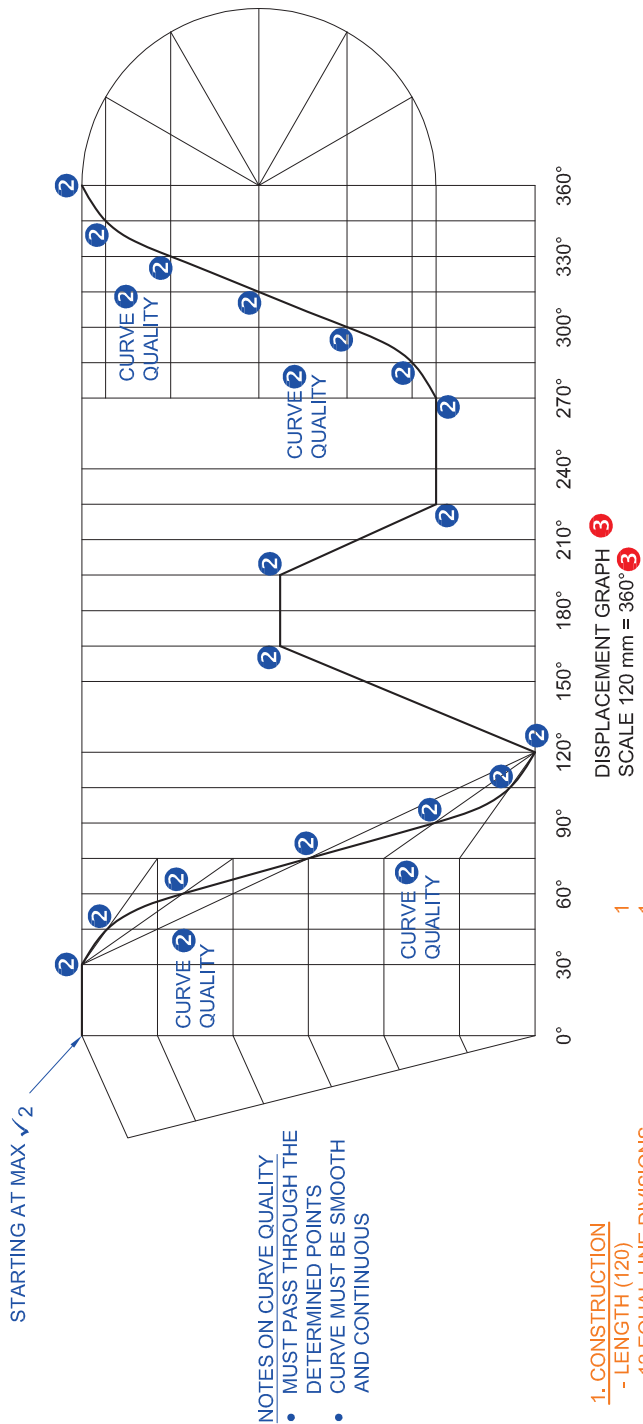
GRINDING ②

0,5
0,2

ANSWER 20 FREEHAND ③

RECTANGLE / SHAFT ③
 SQUARE ③
 CROSS ③
 SYMMETRY ③
 CENTRE LINE ③





NOTES ON CURVE QUALITY

- MUST PASS THROUGH THE DETERMINED POINTS
- CURVE MUST BE SMOOTH AND CONTINUOUS

1. CONSTRUCTION

- LENGTH (120)
- 12 EQUAL LINE DIVISIONS

UNIFORM ACCELERATION. + RETARDATION

- 15° DIVISIONS
- HEIGHT DIVISION
- FIRST HALF CONSTRUCTION
- SECOND HALF CONSTRUCTION

SIMPLE HARMONIC MOTION

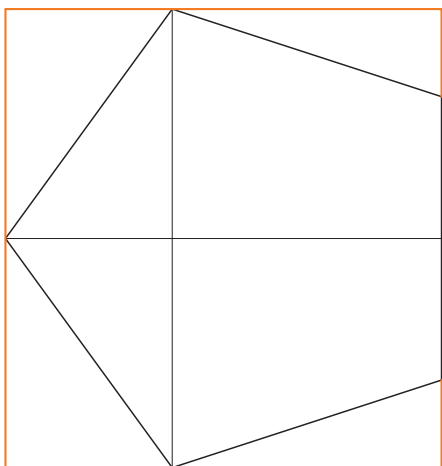
- SEMI CIRCLE IN THE CORRECT POSITION
- CIRCLE DIVISION
- ADDITIONAL 15° DIVISIONS
- PROJECTION

TOTAL 6.0

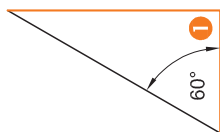
ASSESSMENT CRITERIA 2.2	
1	CONSTRUCTION
2	POINTS + CURVE
3	LABELS
SUBTOTAL 2.2	

PAPER 2 QUESTION 2.2
GRADE 12
NOVEMBER 2024
MARKING GUIDELINES



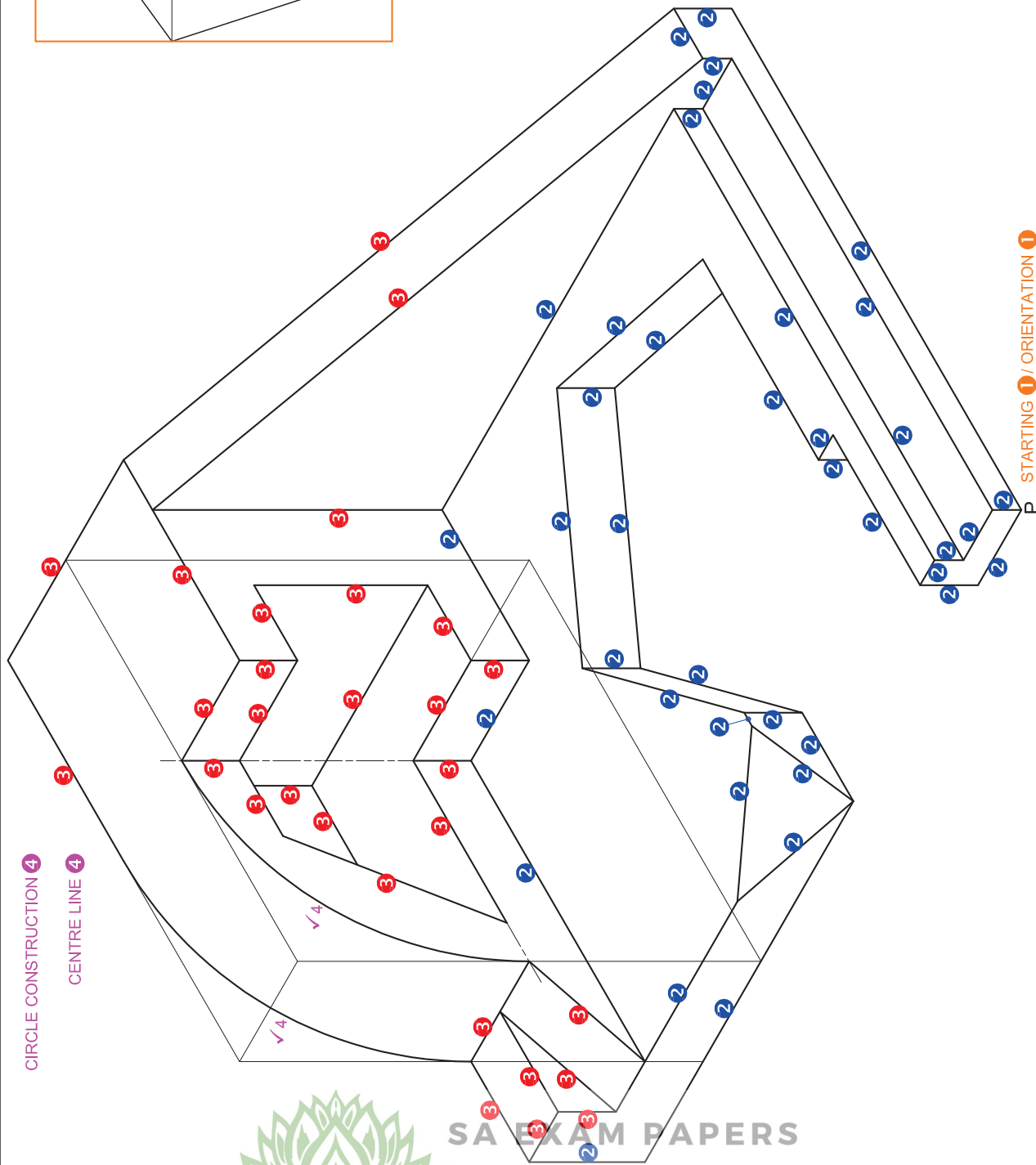


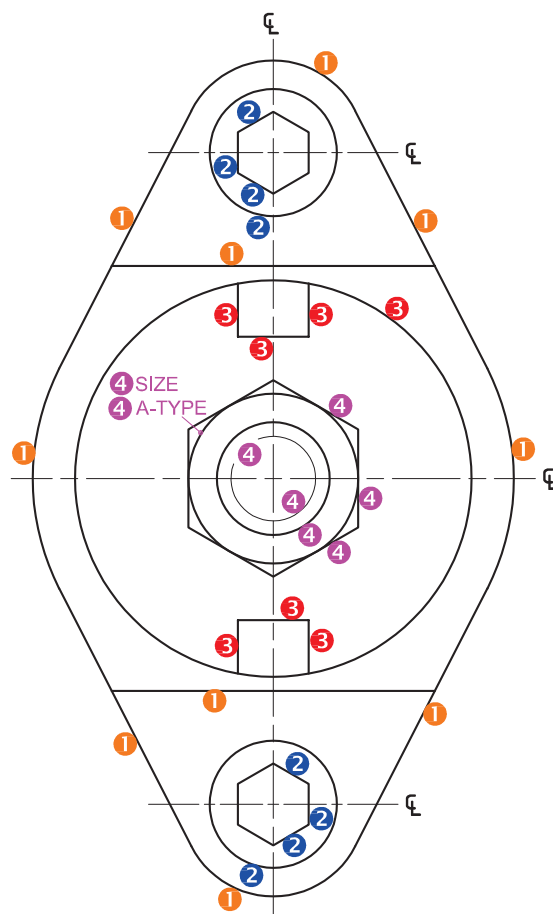
PENTAGON CONSTRUCTION ✓1



ASSESSMENT CRITERIA	
1	PLACING + AUX. VIEW 2 ½
2	BASE + PENTAGON 20
3	UPPER PORTION 14 ½
4	CIRCLES + CONST. + 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 $\frac{1}{2}$
4	M16 NUT	4
SUBTOTAL		16 $\frac{1}{2}$

PAPER 2 QUESTION 4
 GRADE 12
 NOVEMBER 202-
 MARKING GUIDELINE



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

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

ENLARGED BOLT HEAD MARK ALLOCATION & ALTERNATIVE

ROD GUIDE ALTERNATIVE

PISTON SEAL MARK ALLOCATION

ROD NOT SECTIONED $H\sqrt{4}$

CENTRE LINE $\sqrt{2}$

HEIGHT $\sqrt{8}$

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ASSESSMENT CRITERIA

HALF-SECTIONAL FRONT VIEW	
1	LEFT-END PLATE 10 $\frac{1}{2}$
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 $\frac{1}{2}$	
GENERAL	
1	CENTRE LINES 3
2	ASSEMBLY 10
SUBTOTAL 13	

PAPER 2 QUESTION 4
GRADE 12
November 2024
MARKING GUIDELINE