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PAPERS**



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

ENGINEERING GRAPHICS AND DESIGN P2

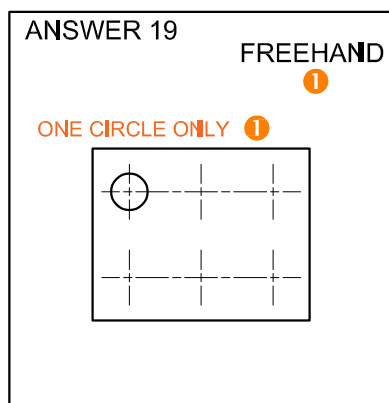
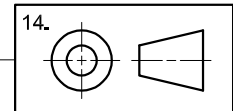
NOVEMBER 2022

MARKING GUIDELINES

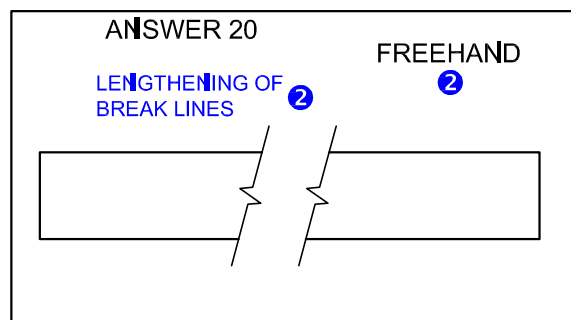
MARKS: 100

These marking guidelines consist of 7 pages.

ANSWERS		
1	S.SMITH	1
2	3	1
3	MILD STEEL	1
4	6	1
5	SUCCESSIVE / REMOVED	1
6	3	1
7	BOTTOM VIEW	1
8	ACROSS FLATS	1
9	CSK	1
10	A: 126 B: Ø28 C: 10	3
11	2	1
12	3	1
13	40	1
14	LEFT	1
15	M34 x 3	1
16	8	1
17	16.98	2
18	MACHINING ALLOWANCE / TOLERANCE	1
	ROUGHNESS VALUE	1
	METHOD / TREATMENT / COATING / PROCESS	1
	DIRECTION OF LAY / CIRCULAR / PATTERN	1
19	See below	3
20		3
TOTAL		30



HORIZONTAL CLs without CIRCLES 2 x 0.5
 VERTICAL CLs without CIRCLES 2 x 0.5



PARALLEL BREAK LINES 2 x 0.5
 ZIG ZAG 2 x 0.5

NOTE: BREAKLINES CAN BE ALIGNED
 or VERTICAL

PAPER 2 QUESTION 1
 GRADE 12
 NOVEMBER 2022
 MARKING GUIDELINE

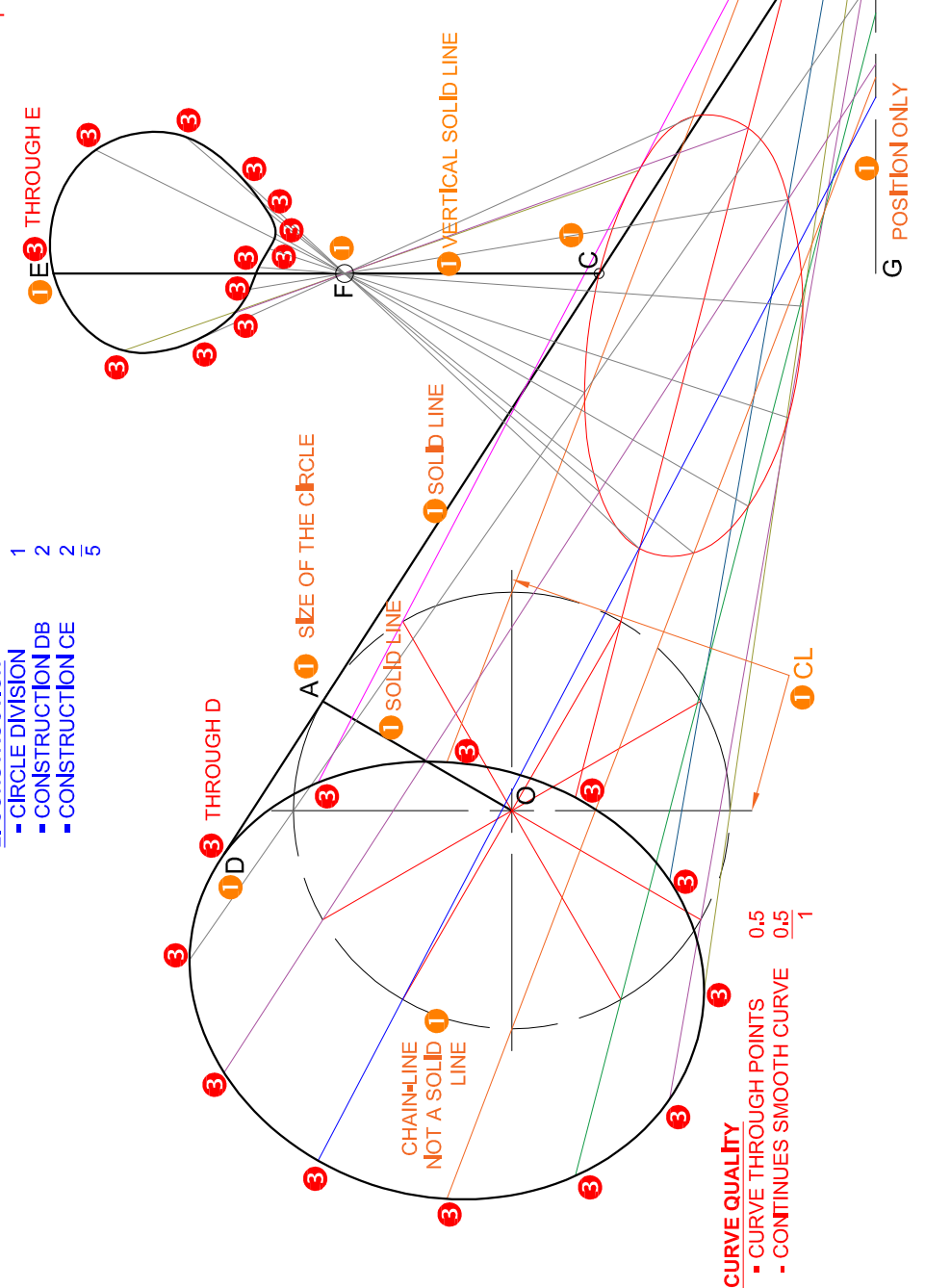
ASSESSMENT CRITERIA 2.1	
1	GIVEN + LABELS + CL
2	CONSTRUCTION
3	LOC OF D + E
SUBTOTAL 2.1	
25	

CURVE QUALITY

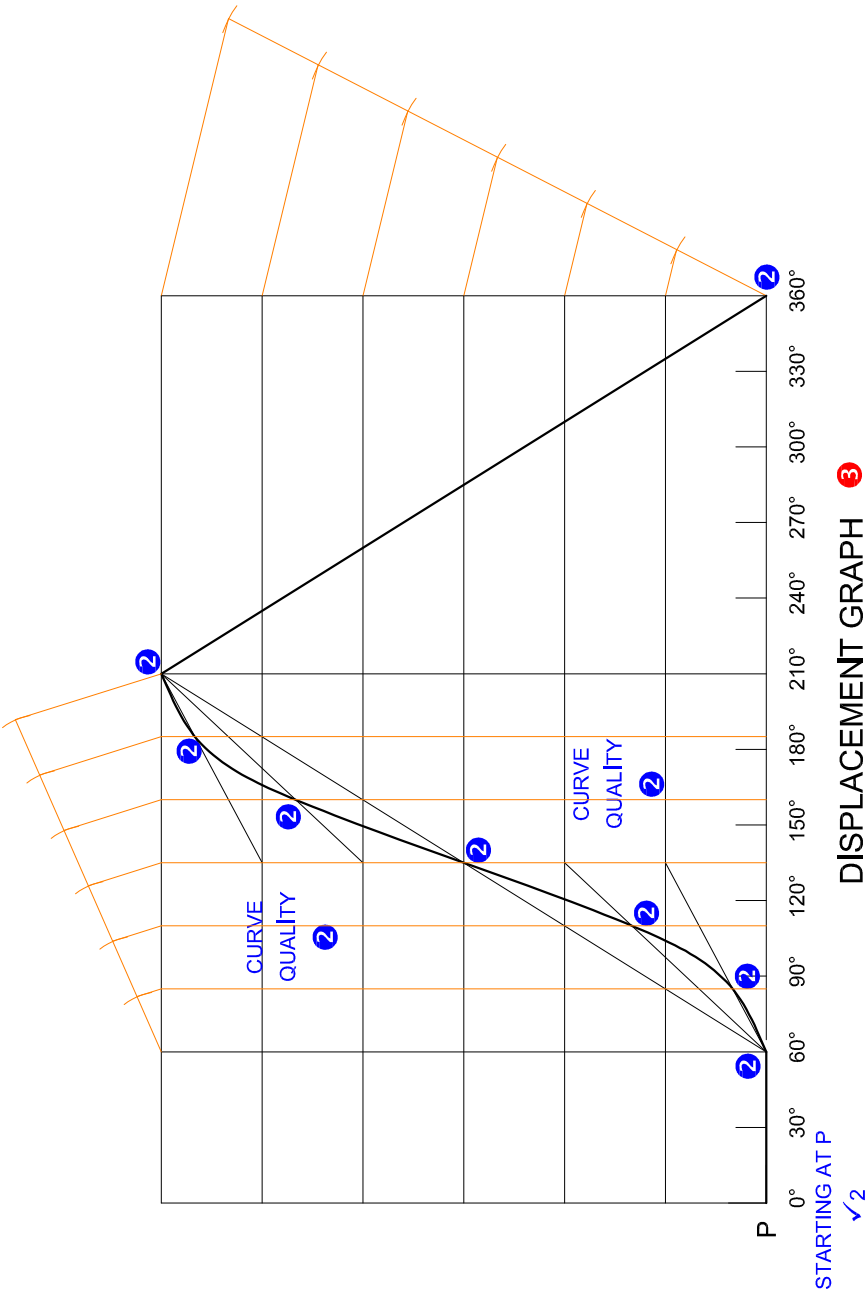
- CURVE THROUGH POINTS 0.5
- CONTINUES SMOOTH CURVE 0.5

2. CONSTRUCTION

- CIRCLE DIVISION 1
- CONSTRUCTION DB 2
- CONSTRUCTION CE 2



PAPER 2 QUESTION 2
GRADE 12
NOVEMBER 2022
MARKING GUIDELINE



DISPLACEMENT GRAPH 3
SCALE 10 mm = 30° 3

NOTE ON CURVE QUALITY
MUST BE THROUGH DETERMINED
POINTS, & CURVE MUST BE
CONTINUOUS AND SMOOTH

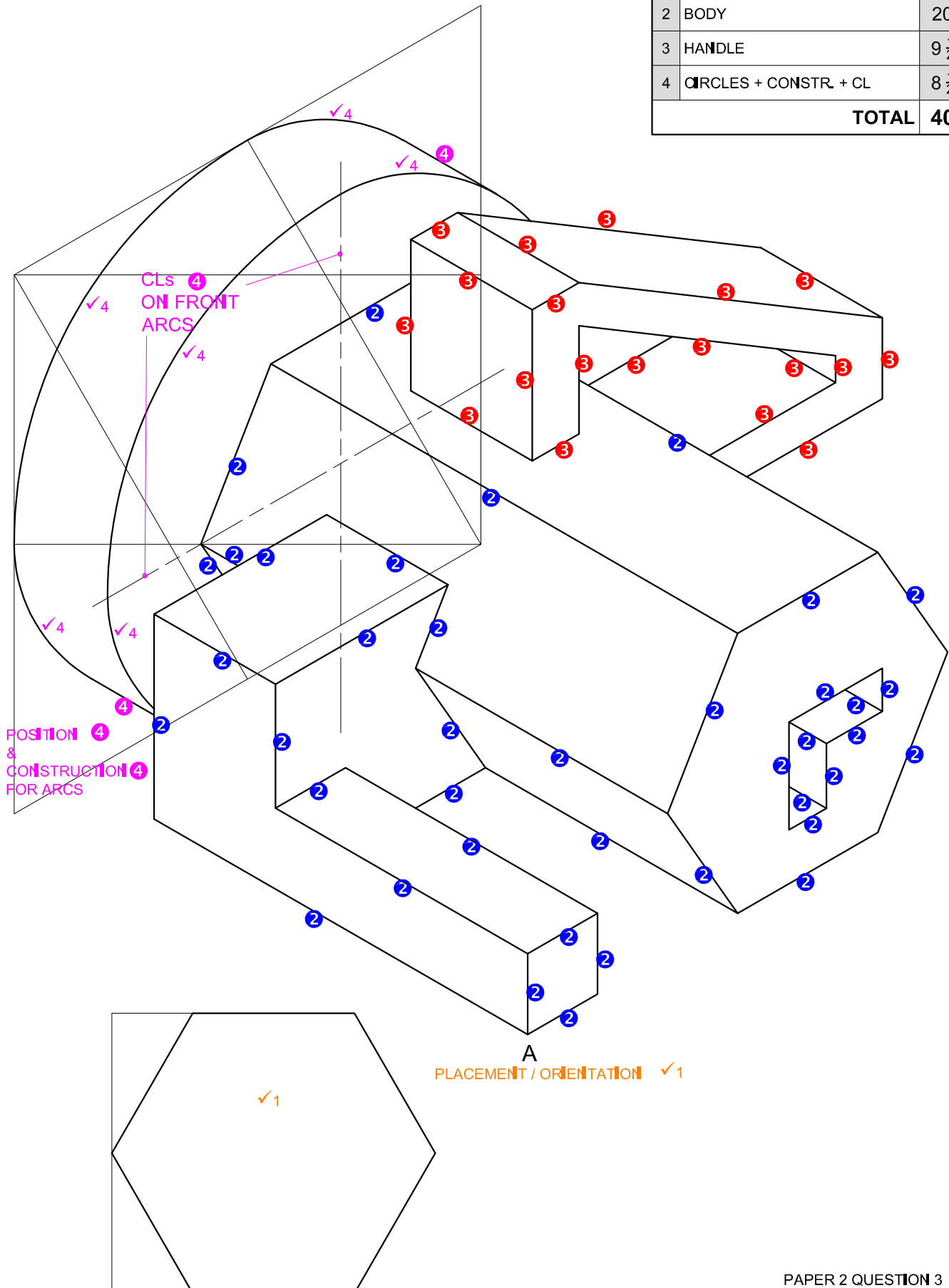
1. CONSTRUCTION
- LENGTH 120 + LINE DIVISIONS $(\frac{1}{2} + \frac{1}{2})$
 - 150° HORIZONTAL LINE DIVISION for UAR
 - VERTICAL DIVISIONS for UAR (hor / vert. division number must be equal)
 - FIRST HALF CONSTRUCTION for UAR
 - SECOND HALF CONSTRUCTION for UAR

ASSESSMENT CRITERIA 2.2		
1	GRAPH CONSTRUCTION	5
2	POINTS + CURVE	6
3	LABELS	1
SUBTOTAL 2.2		12

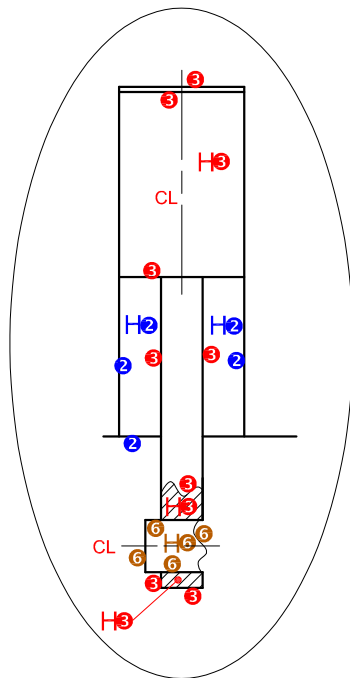
PAPER 2 QUESTION 2
GRADE 12
NOVEMBER 2022
MARKING GUIDELINE

ASSESSMENT CRITERIA

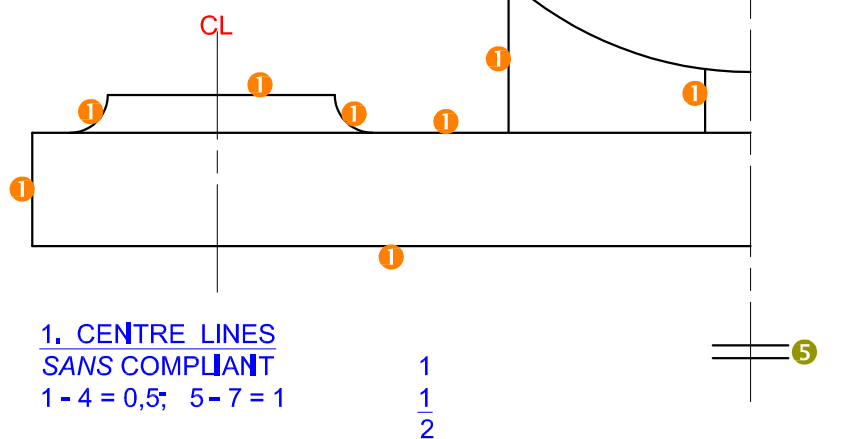
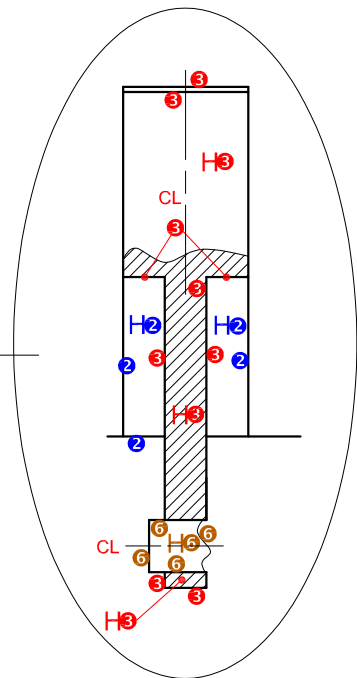
1	PLACING + AUX. VIEW	2
2	BODY	20
3	HANDLE	9 $\frac{1}{2}$
4	CIRCLES + CONSTR. + CL	8 $\frac{1}{2}$
TOTAL		40



ALTERNATIVE 1
FOR LEFT VIEW



ALTERNATIVE 2
FOR LEFT VIEW



1. CENTRE LINES
SANS COMPLIANT
1 - 4 = 0,5; 5 - 7 = 1

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

ASSESSMENT CRITERIA

FRONT VIEW

1	BASE	5 $\frac{1}{2}$
2	TENSION SCREW	1 $\frac{1}{2}$
3	FLY WHEEL	1
4	NUT + WASHER	4 $\frac{1}{2}$
5	INDICATION OF SYMMETRY	2

SUBTOTAL 14 $\frac{1}{2}$

GENERAL

1	CENTRE LINES	2
2	ASSEMBLY	10
SUBTOTAL		12

PAPER 2 QUESTION 4
GRADE 12
NOVEMBER 2022
MARKING GUIDELINE

