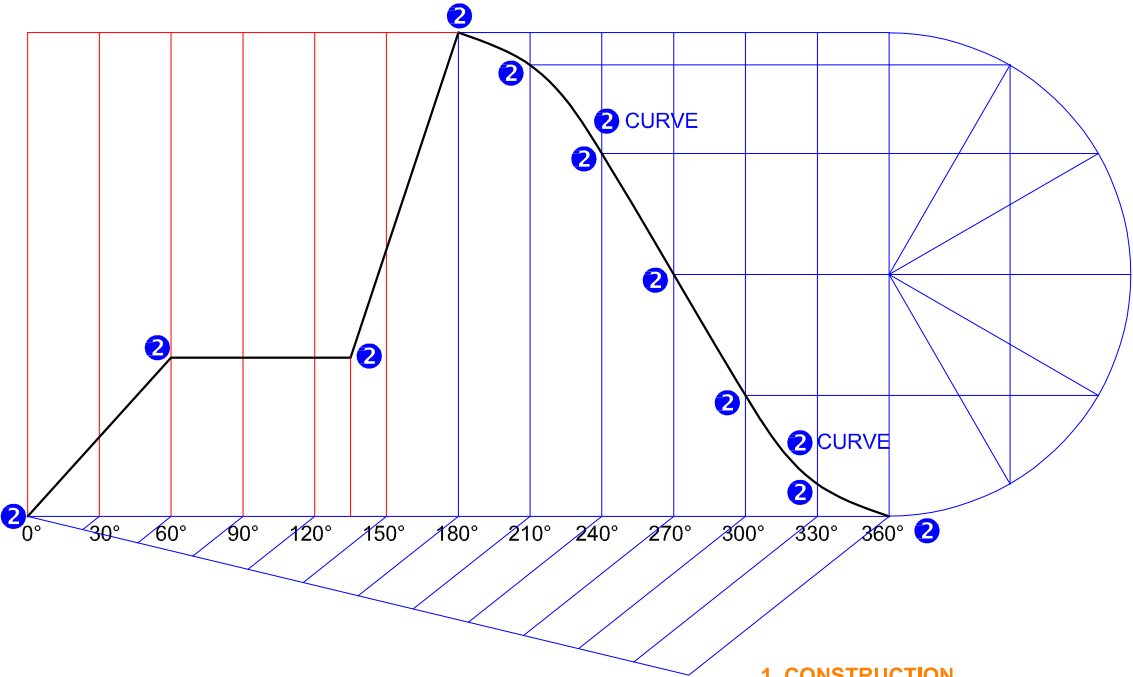
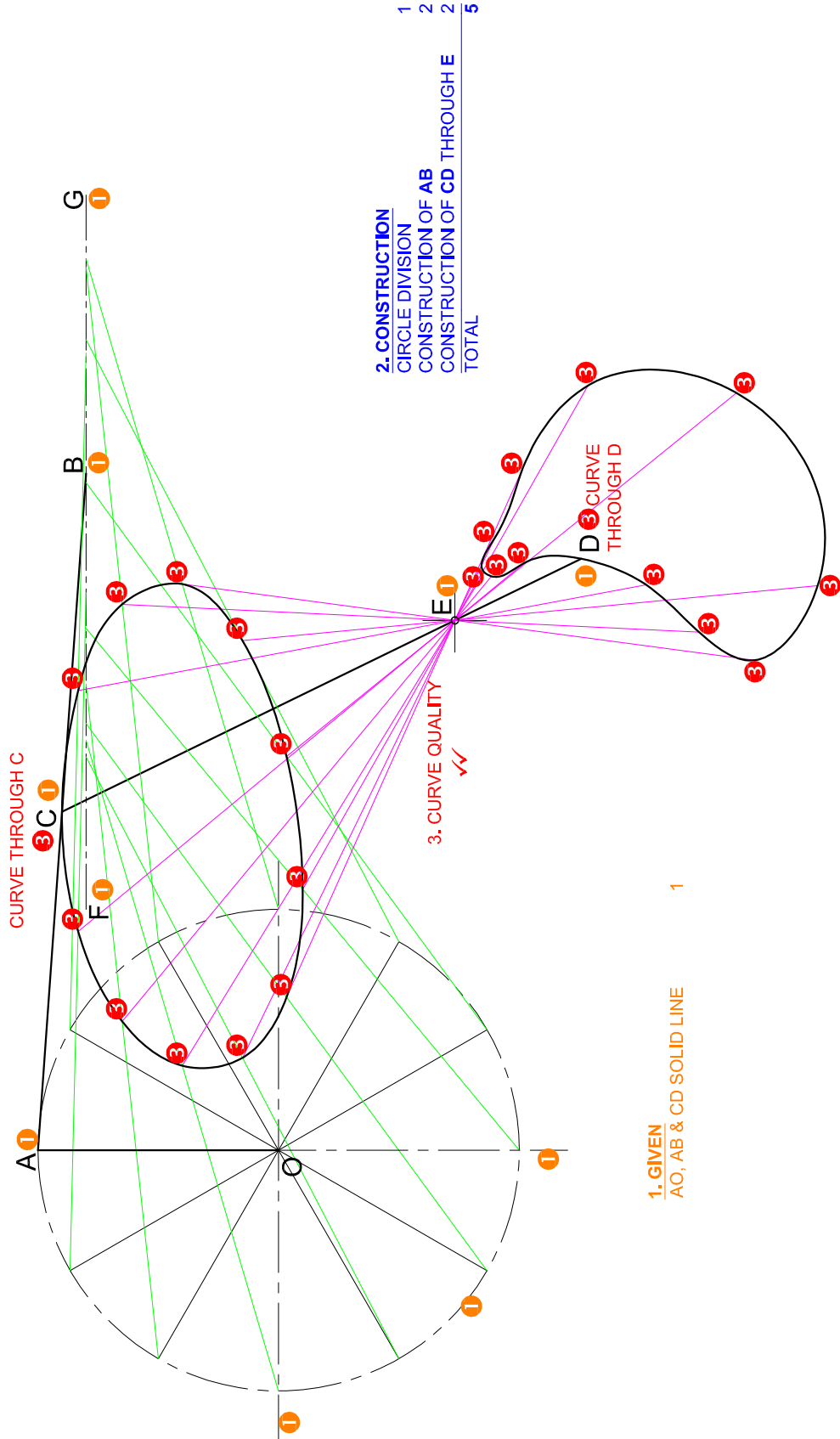




DISPLACEMENT GRAPH 3
SCALE: 114 mm = 360° ROTATION 3

1 CONSTRUCTION	
- LENGTH (114)	1
* LINE DIVISION (114 INTO 12 PARTS)	1
- SIMPLE HARMONIC MOTION	
* SEMI CIRCLE	1
* CIRCLE DIVISION	1
* VERTICAL PROJECTION	1
* HORIZONTAL PROJECTION	1
TOTAL	4

ASSESSMENT CRITERIA 2.1		
1	CONSTRUCTION	4
2	POINTS + CURVE	6
3	LABELS	1
PENALTIES (-)		
SUBTOTAL		11



ASSESSMENT CRITERIA 2.2		
1	GIVEN	6
2	CONSTRUCTION	5
3	POINTS + CURVE	14
TOTAL		25

PAPER 2 QUESTION 2.2
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

- 1 CONSTRUCTION OF SIMPLE HARMONIC MOTION
- SEMI CIRCLE

- CIRCLE DIVISION

- VERTICAL PROJECTION

- ADDITIONAL 15° DIVISIONS

- HORIZONTAL PROJECTION
- 1
1
1
1
2

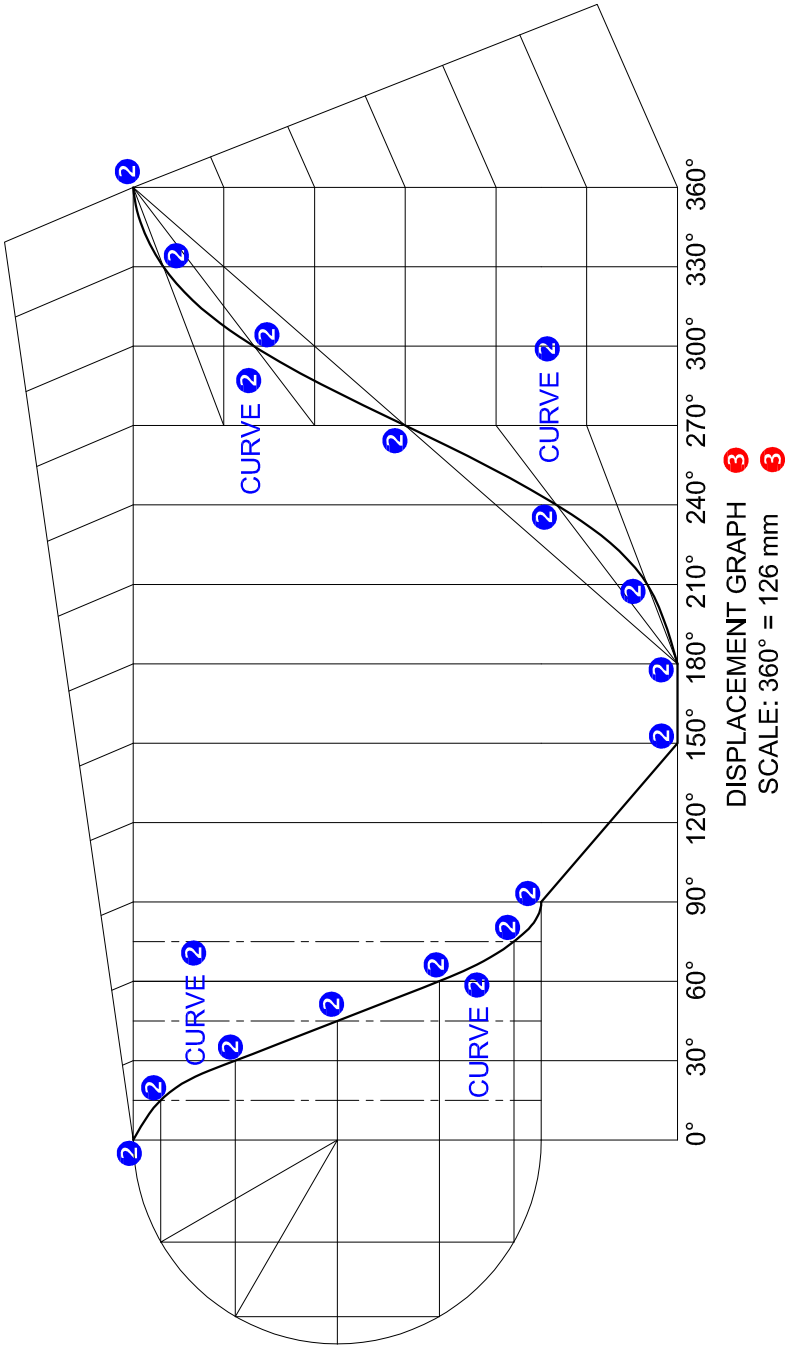
- 1 CONSTRUCTION OF GRAPH
- LENGTH (126) ✓

- LINE DIVISION
- 1
1
2

- 1 CONSTRUCTION OF UNIFORM ACCELERATION + RETARDATION
- HORIZONTAL DIVISION

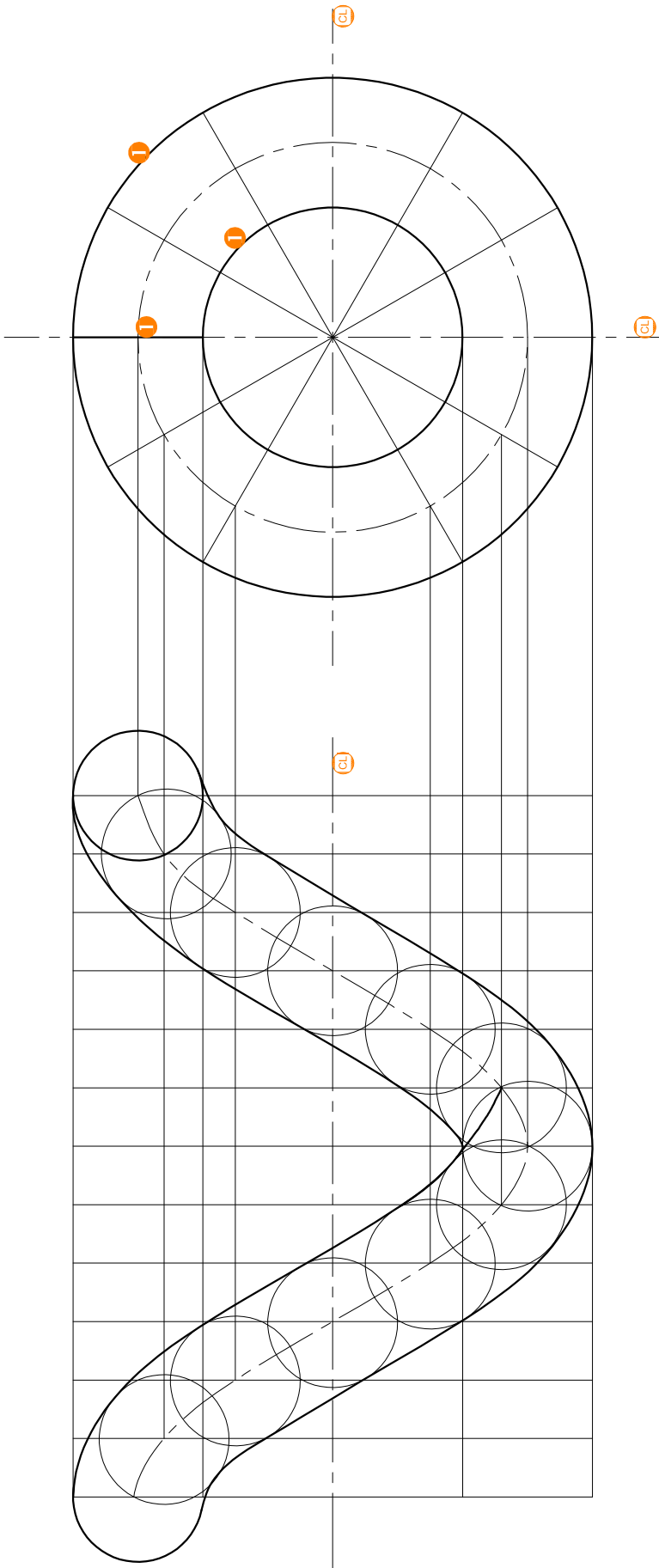
- 180° - 270° CONSTRUCTION

- 270° - 360° CONSTRUCTION
- 1
1
3



ASSESSMENT CRITERIA		
1	CONSTRUCTION	7 1/2
2	POINTS + CURVE	9 1/2
3	LABELS	1
SUBTOTAL 2.1		18

PAPER 2 QUESTION 2.1
GRADE 12
SCE 2018
MARKING GUIDELINES



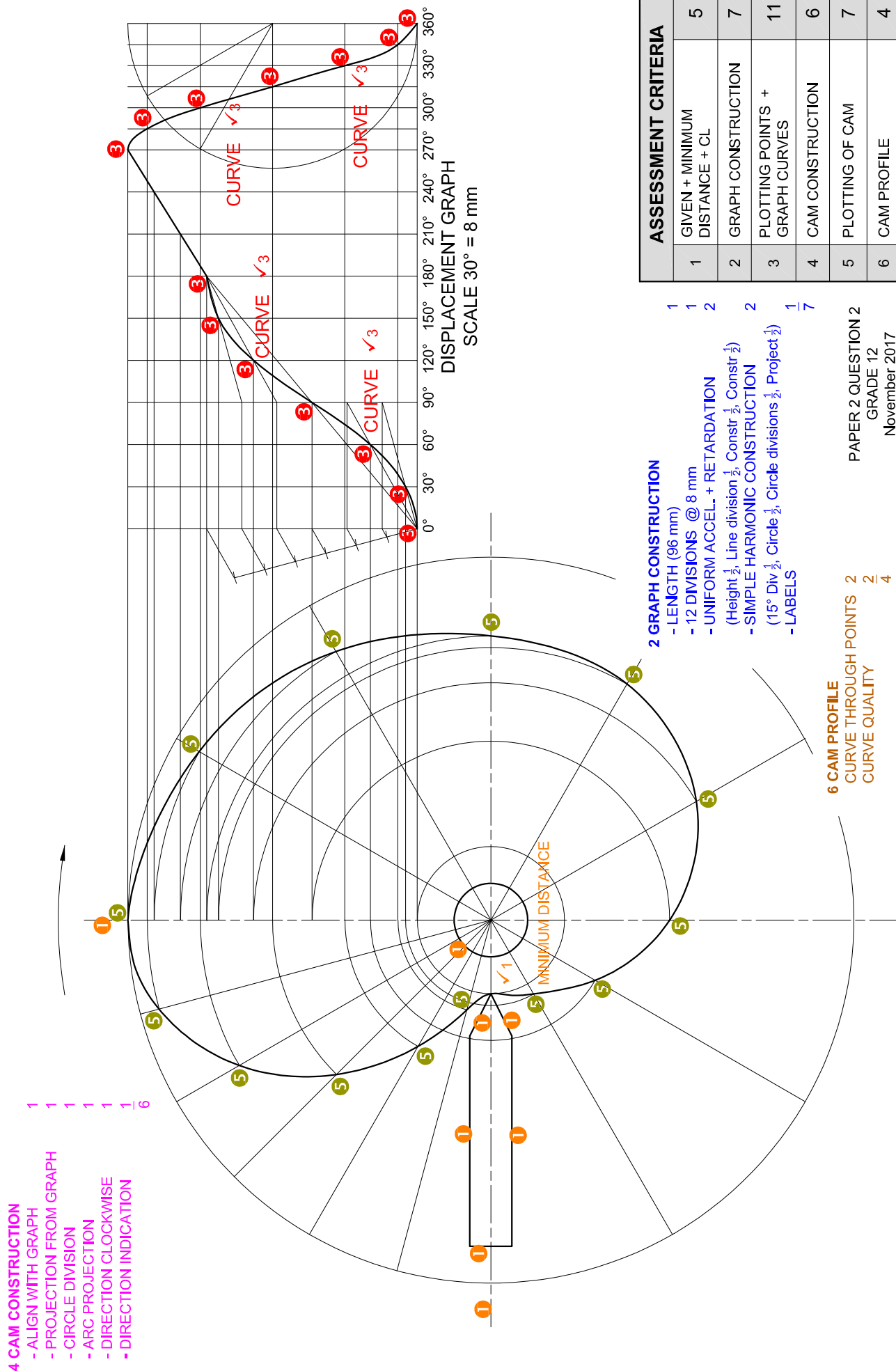
- 2 CONSTRUCTION

 - PROFILE CENTRE
 - CIRCLE DIVISIONS
 - PITCH
 - LINE DIVISION
 - VERTICAL PROJECTION
 - HORIZONTAL PROJECTION
- 3 FRONT VIEW

 - CORRECTLY PLACED CIRCLES (13 x $\frac{1}{2}$)
 - INDICATION DIRECTION
 - CURVES (4 x $\frac{1}{2}$)
 - START + FINISH
- 1 1 1 1 1 1 6
- 6 $\frac{1}{2}$ 2 2 1 $\frac{1}{2}$ 12

ASSESSMENT CRITERIA		
1	GIVEN + CENTRE LINES	3
2	CONSTRUCTION	6
3	FRONT VIEW	12
2.2 SUBTOTAL		21

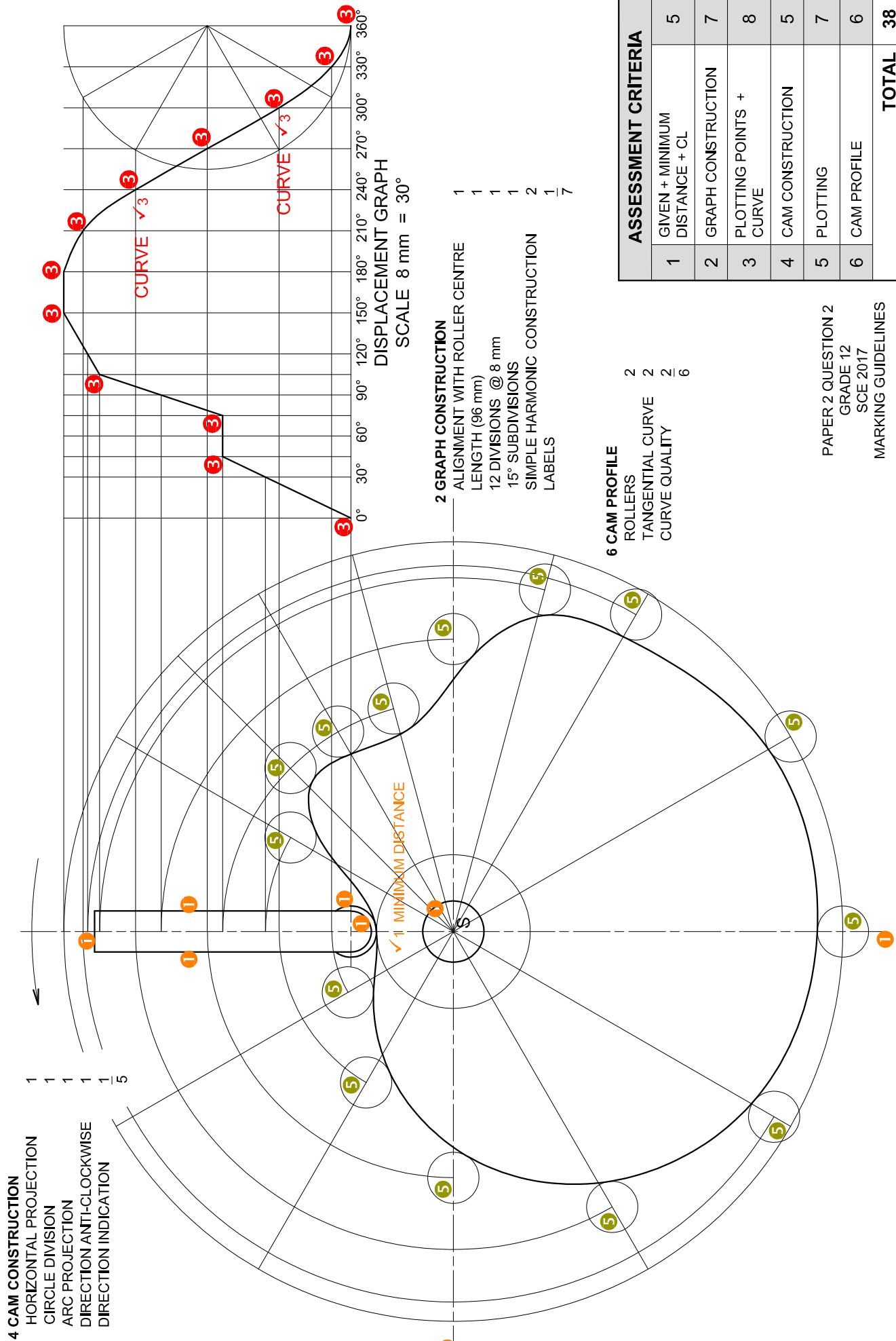
PAPER 2 QUESTION 2.2
GRADE 12
SCE 2018
MARKING GUIDELINES



ASSESSMENT CRITERIA		
1	GIVEN + MINIMUM DISTANCE + CL	5
2	GRAPH CONSTRUCTION	7
3	PLOTTING POINTS + GRAPH CURVES	11
4	CAM CONSTRUCTION	6
5	PLOTTING OF CAM	7
6	CAM PROFILE	4
TOTAL		40

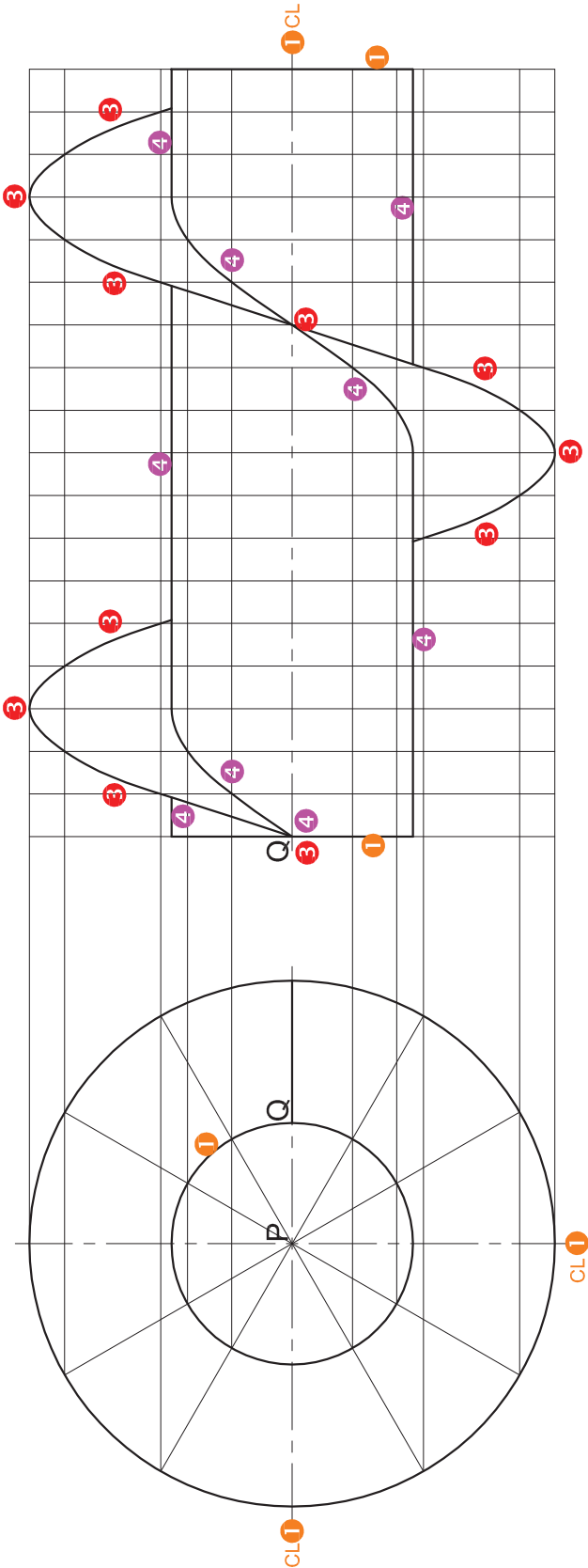
PAPER 2 QUESTION 2
GRADE 12
November 2017
MARKING GUIDELINES

MARKING GUIDELINES



ASSESSMENT CRITERIA		
1	GIVEN + MINIMUM DISTANCE + CL	5
2	GRAPH CONSTRUCTION	7
3	PLOTTING POINTS + CURVE	8
4	CAM CONSTRUCTION	5
5	PLOTTING	7
6	CAM PROFILE	6
TOTAL		38

PAPER 2 QUESTION 2
GRADE 12
SCE 2017
MARKING GUIDELINES

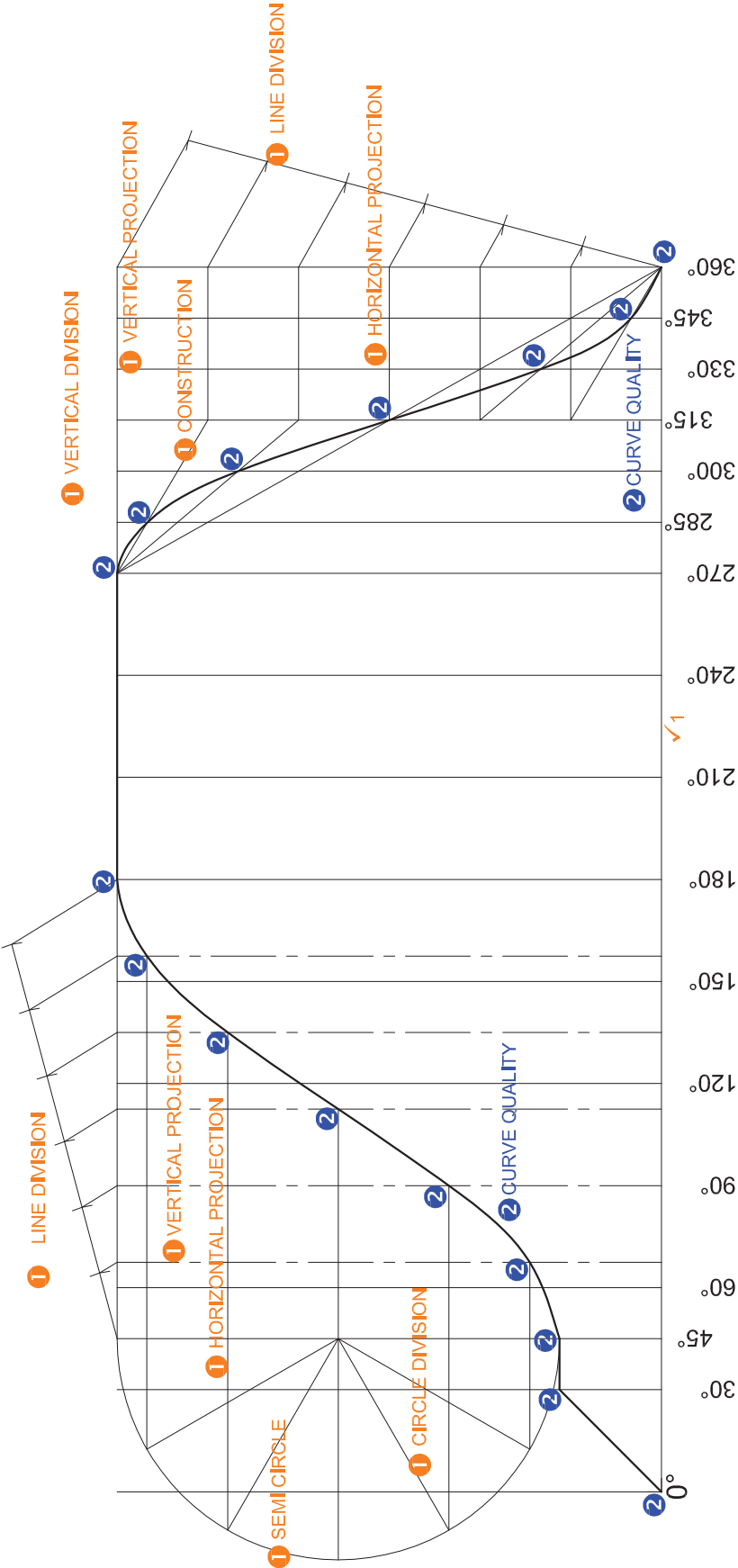


5✓✓ CURVE QUALITY FOR BOTH HELICES

2. CONSTRUCTION	
OUTER CIRCLE (NOMINAL DIAMETER)	1
STARTING POSITION ON Q	1
CIRCLE DIVISION	1
PITCH + LINE DIVISION	2
VERTICAL PROJECTION	1
HORIZONTAL PROJECTION	1
DIRECTION	1
	8

ASSESSMENT CRITERIA 2.1	
1	GIVEN + CENTRE LINES
2	CONSTRUCTION
3	OUTER HELIX
4	INNER HELIX + SHAFT
5	CURVE QUALITY
SUBTOTAL	
23	

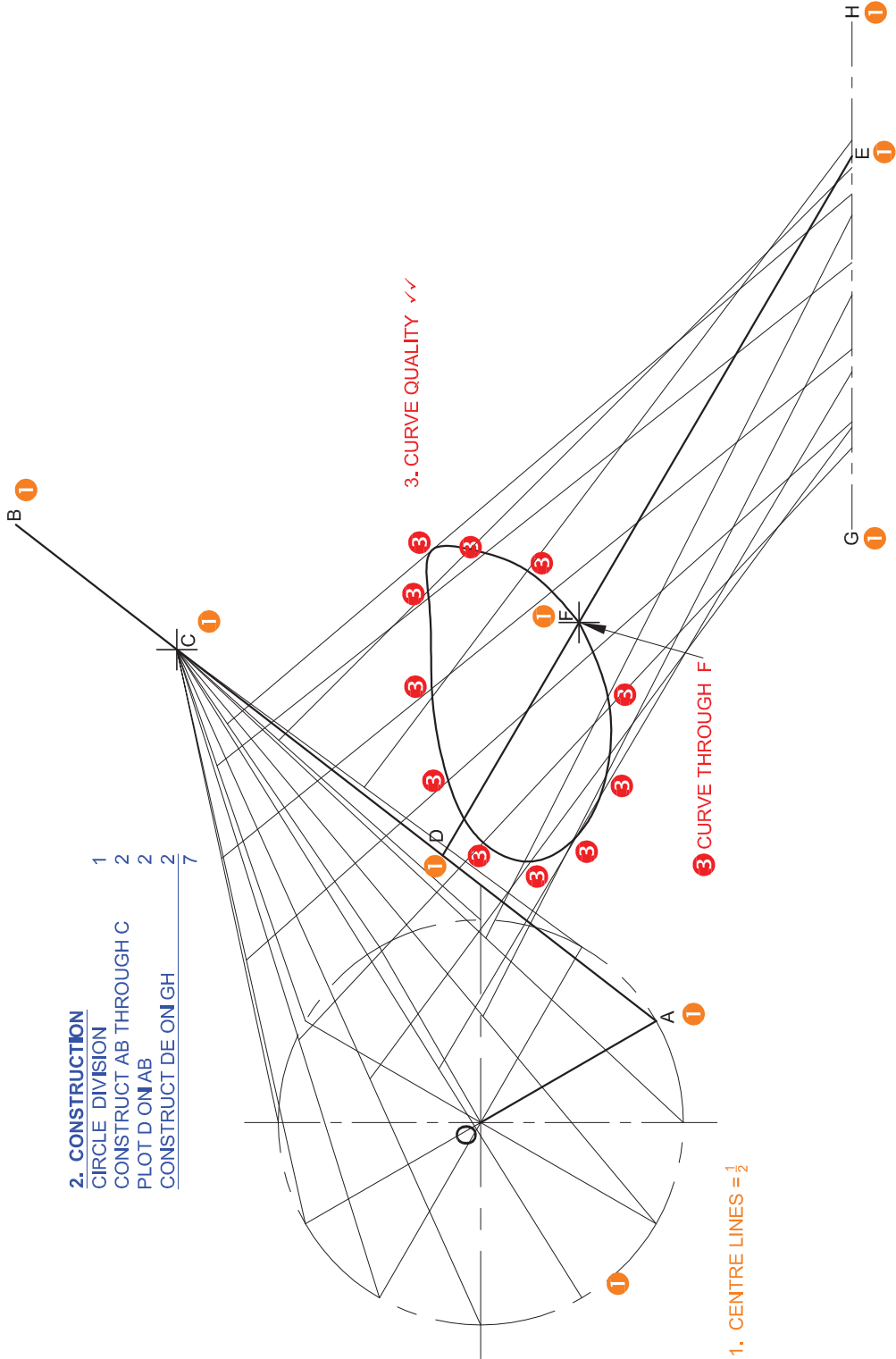
PAPER 2 QUESTION 2.1
GRADE 12
Feb./Mar. 2017
MEMORANDUM



GRAPH OF DISPLACEMENT 3
HORIZONTAL SCALE - 180mm = 360° 3

PAPER 2 QUESTION 2.2
GRADE 12
Feb./Mar. 2017
MEMORANDUM

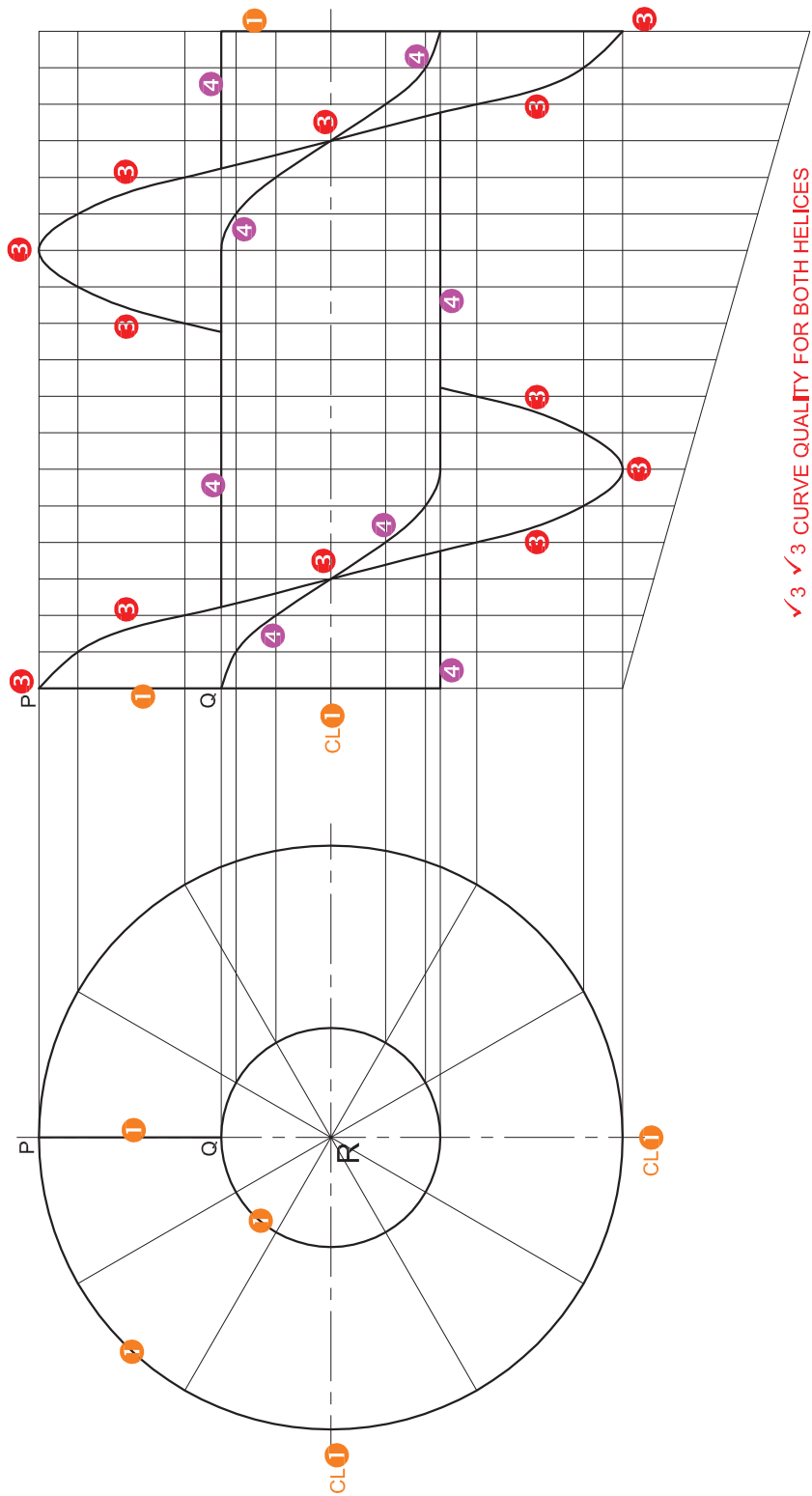
ASSESSMENT CRITERIA 2.2		
1	CONSTRUCTION	6
2	POINTS + CURVES	9
3	LABELS	1
PENALTIES (-)		
SUBTOTAL		16



- 2. CONSTRUCTION**
- CIRCLE DIVISION 1
 - CONSTRUCT AB THROUGH C 2
 - PLOT D ON AB 2
 - CONSTRUCT DE ON GH 2
- 7

ASSESSMENT CRITERIA 2.1		
1	GIVEN	5
2	CONSTRUCTION	7
3	POINTS + CURVE	8
SUBTOTAL		20

PAPER 2 QUESTION 2.1
GRADE 12
November 2016
MEMORANDUM

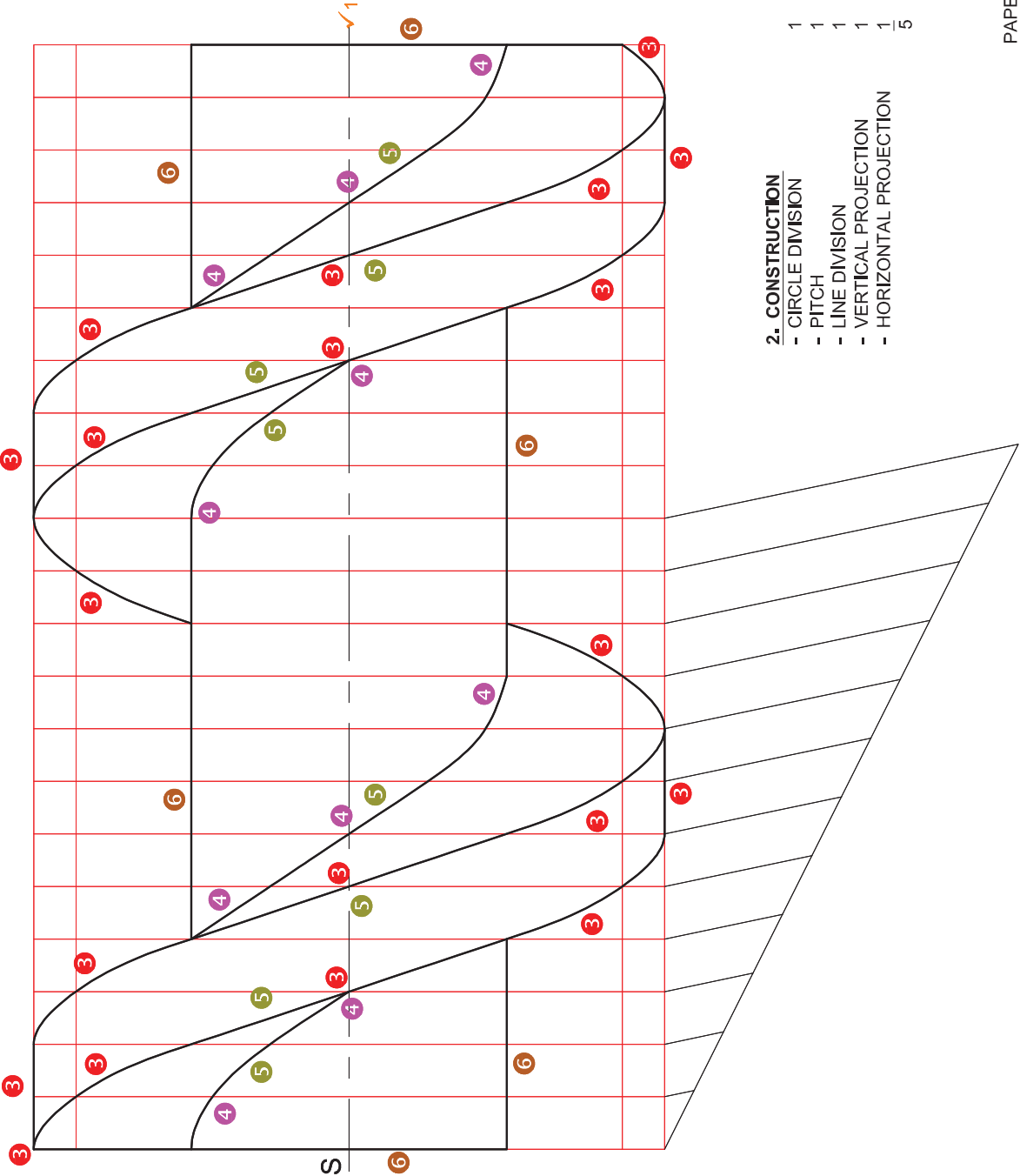
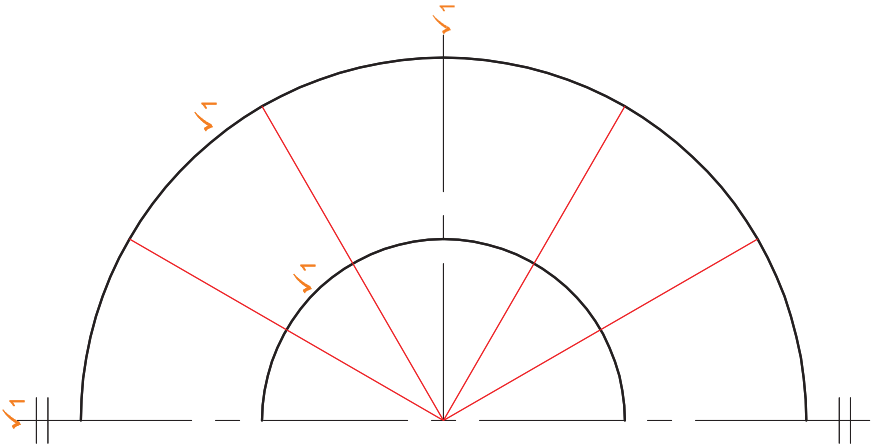


✓ 3 ✓ 3 CURVE QUALITY FOR BOTH HELICES

2. CONSTRUCTION
CIRCLE DIVISION 1
PITCH + LINE DIVISION 2
VERTICAL DIVISION 1
HORIZONTAL PROJECTION 1
DIRECTION 1

PAPER 2 QUESTION 2.2
GRADE 12
November 2016
MEMORANDUM

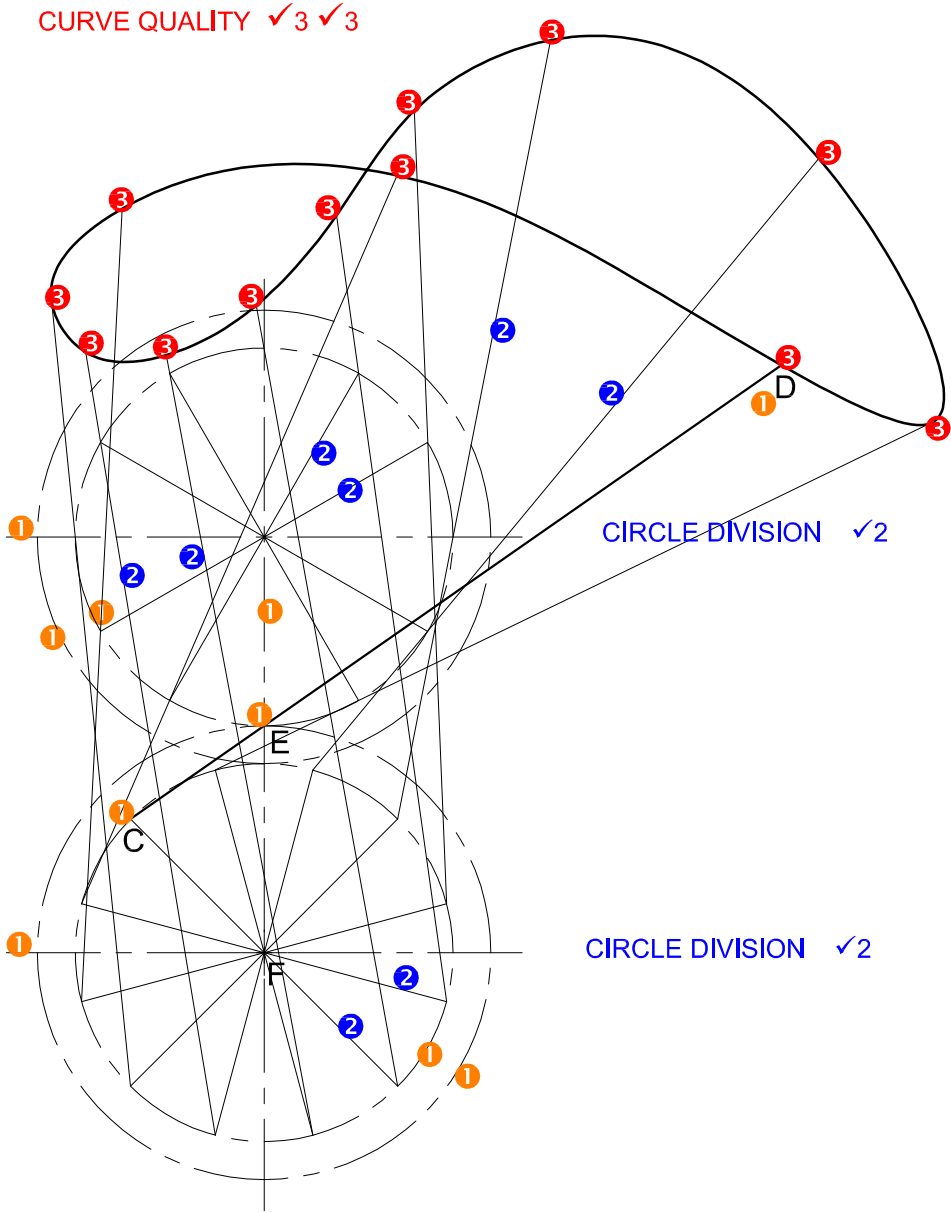
ASSESSMENT CRITERIA 2.2			
1	GIVEN + CENTRE LINES	4	
2	CONSTRUCTION	6	
3	OUTER HELIX + CURVE QUALITY	8	
4	INNER HELIX + SHAFT	4	
SUBTOTAL		22	



2. CONSTRUCTION
- CIRCLE DIVISION 1
 - PITCH 1
 - LINE DIVISION 1
 - VERTICAL PROJECTION 1
 - HORIZONTAL PROJECTION 1

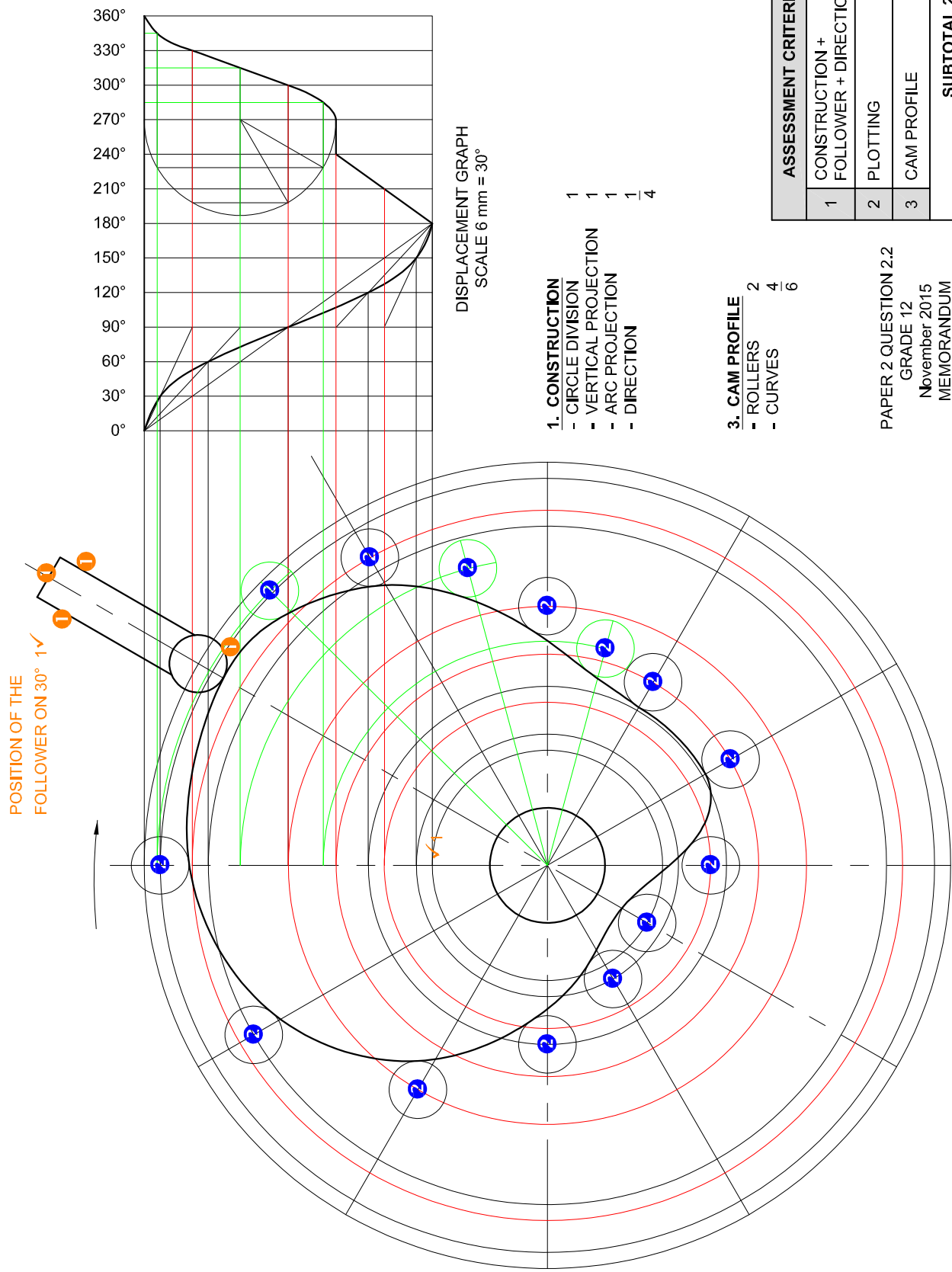
ASSESSMENT CRITERIA	
1	RIGHT VIEW + CENTRE LINES 5
2	CONSTRUCTION 5
3	OUTER CURVE POINTS 10
4	INNER CURVE POINTS 5
5	CURVE QUALITY 4
6	CORE 3
TOTAL 32	

PAPER 2 QUESTION 2
GRADE 12
DBE/Feb.-Mar. 2016
MEMORANDUM



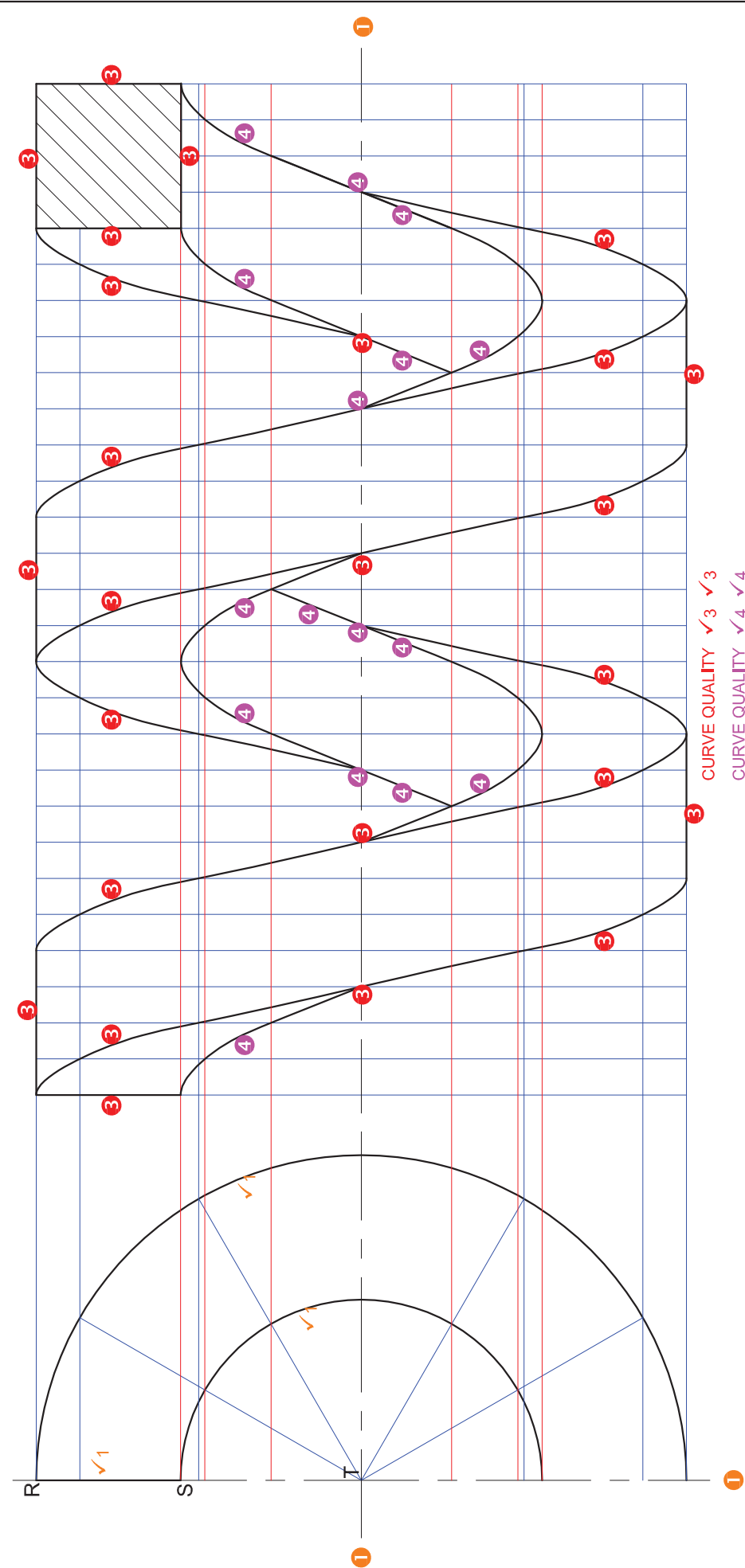
PAPER 2 QUESTION 2.1
GRADE 12
November 2015
MEMORANDUM

ASSESSMENT CRITERIA 2.1		
1	GIVEN + CENTRE LINES	5
2	CONSTRUCTION	6
3	POINTS + CURVE	8
SUBTOTAL 2.1		19



ASSESSMENT CRITERIA 2.2			
1	CONSTRUCTION + FOLLOWER + DIRECTION	8	
2	PLOTTING	7	
3	CAM PROFILE	6	
SUBTOTAL 2.2		21	

PAPER 2 QUESTION 2.2
GRADE 12
November 2015
MEMORANDUM

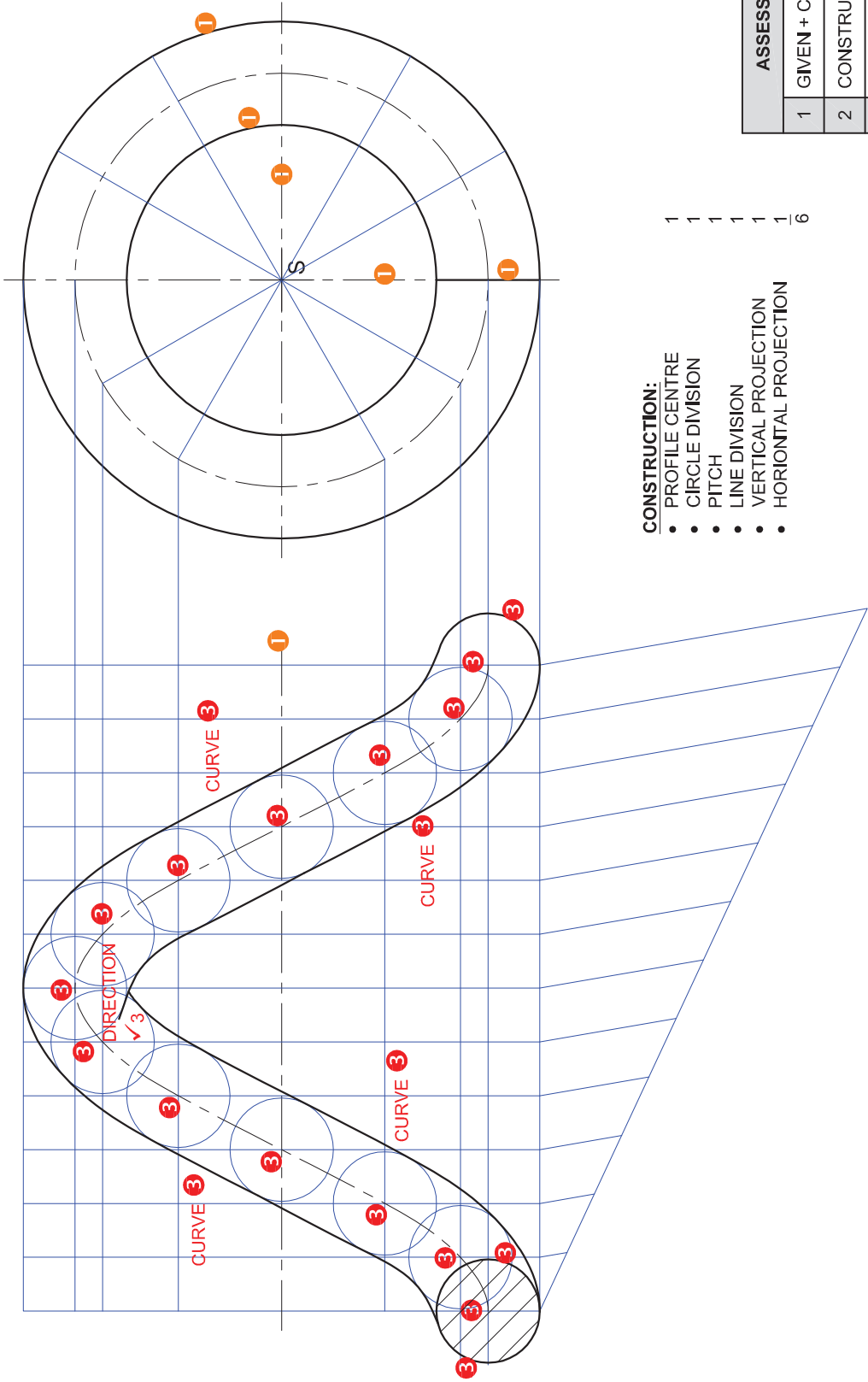


CURVE QUALITY ✓3 ✓3
CURVE QUALITY ✓4 ✓4

- CONSTRUCTION:**
- CIRCLE DIVISION 1
 - PITCH 1
 - HORIZONTAL PROJECTION INNER CIRCLE 1
 - HORIZONTAL PROJECTION OUTER CIRCLE 1
 - VERTICAL DIVISION FIRST TURN 1
 - VERTICAL DIVISION SECOND TURN 1
 - DIRECTION 2
- 8

ASSESSMENT CRITERIA	
1	GIVEN + CENTRE LINES + STARTING POINT 4 ½
2	CONSTRUCTION 8
3	OUTSIDE POINTS + CURVE + QUALITY 14 ½
4	INSIDE POINTS + CURVE + QUALITY 10
PENALTIES (-)	
TOTAL 37	

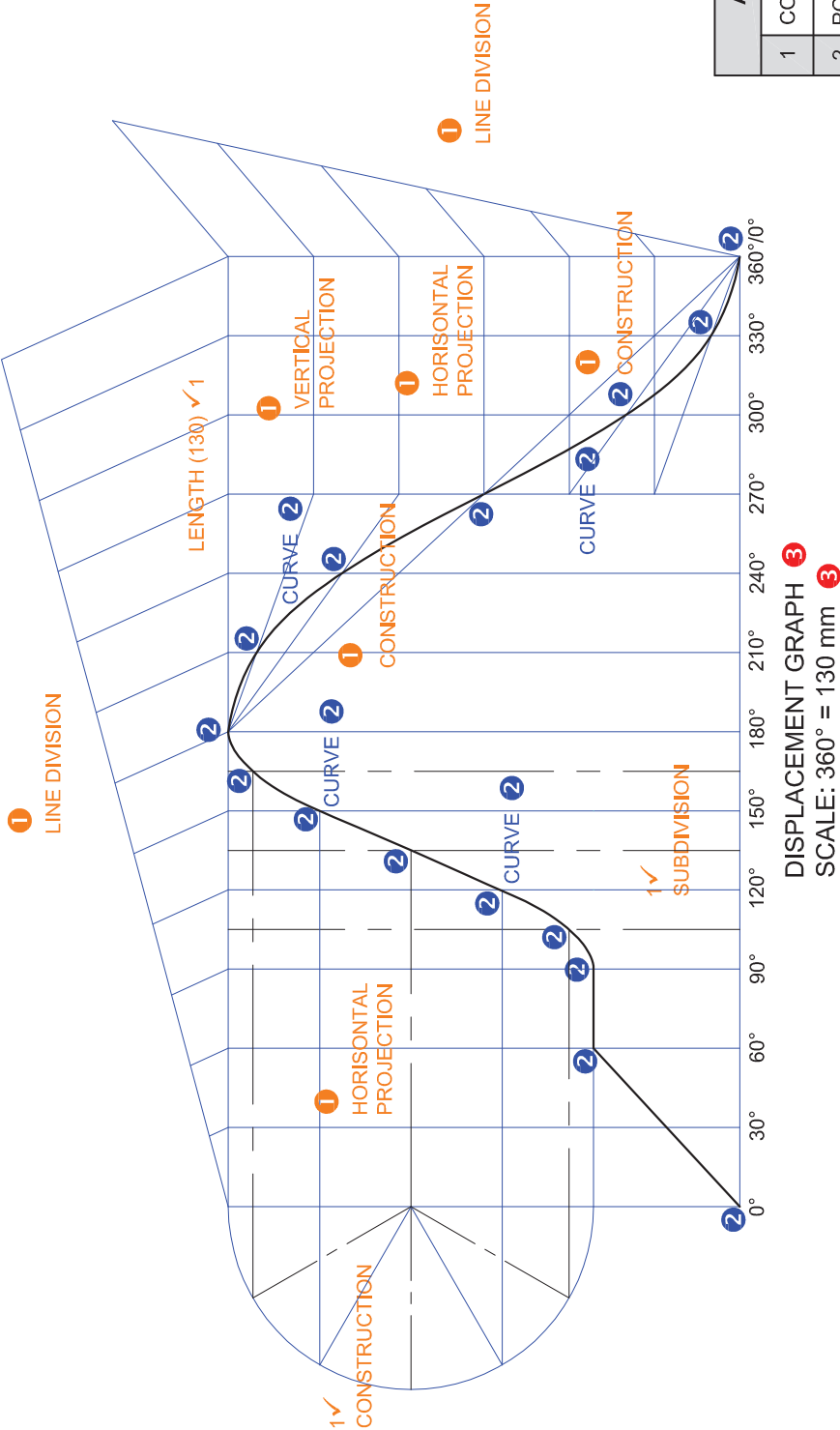
PROFILE CIRCLES (Ø16) ✓ 3



- CONSTRUCTION:**
- PROFILE CENTRE 1
 - CIRCLE DIVISION 1
 - PITCH 1
 - LINE DIVISION 1
 - VERTICAL PROJECTION 1
 - HORIZONTAL PROJECTION 1

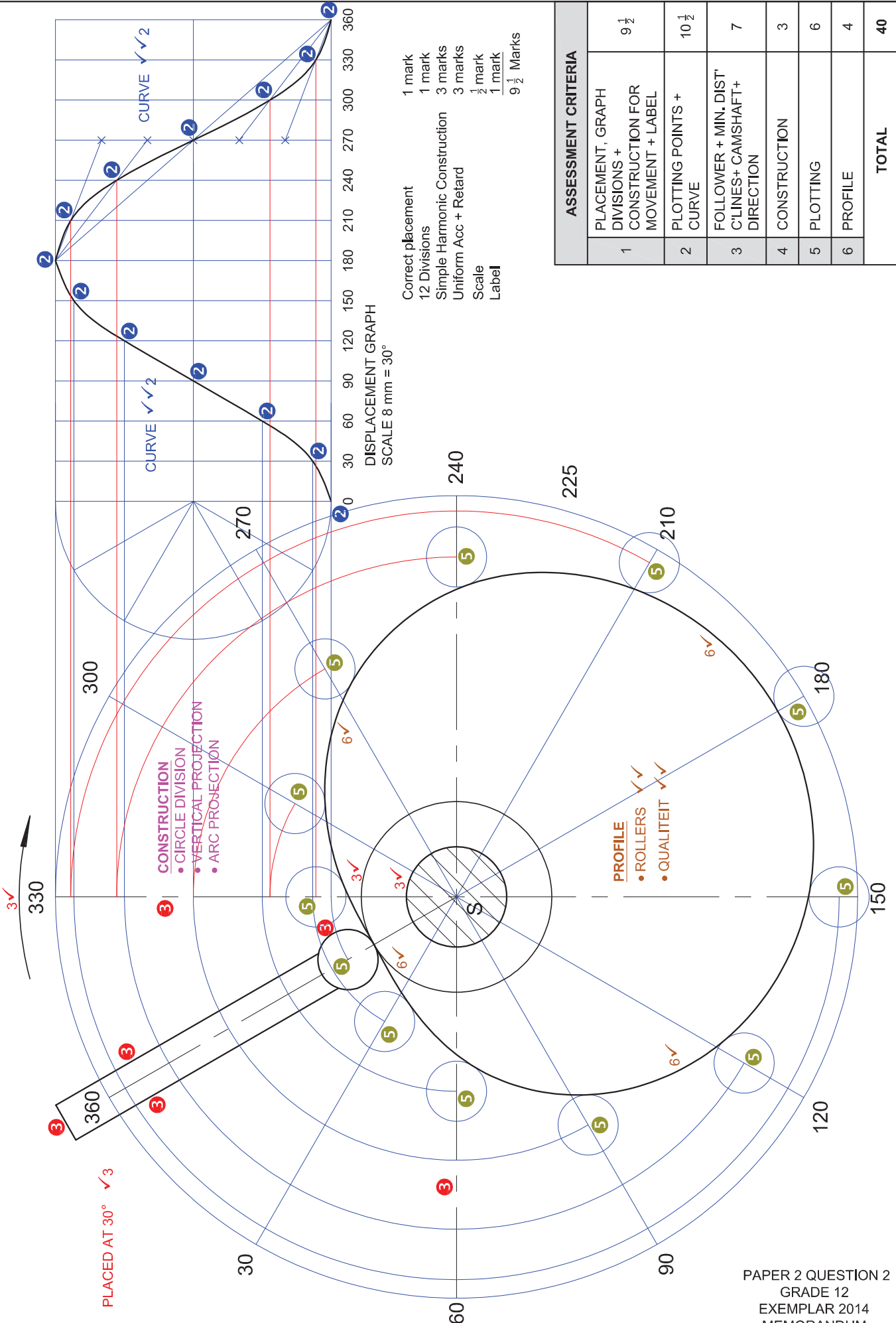
ASSESSMENT CRITERIA		
1	GIVEN + CENTRE LINES	3
2	CONSTRUCTION	6
3	POINTS + CURVES	12
PENALTIES (-)		
SUBTOTAL 2.1		21

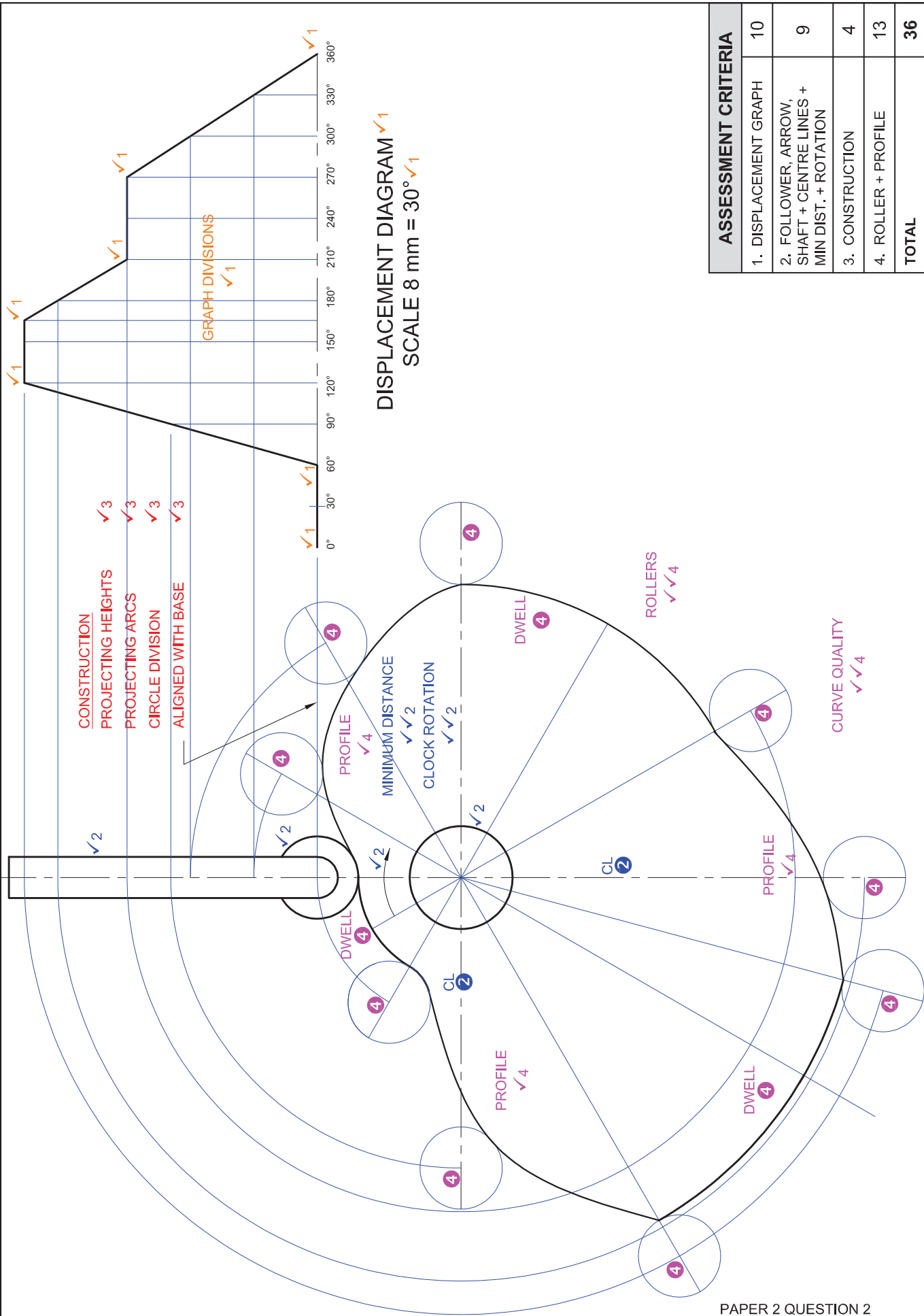
PAPER 2 QUESTION 2.1
GRADE 12
DBE/November 2014
MEMORANDUM

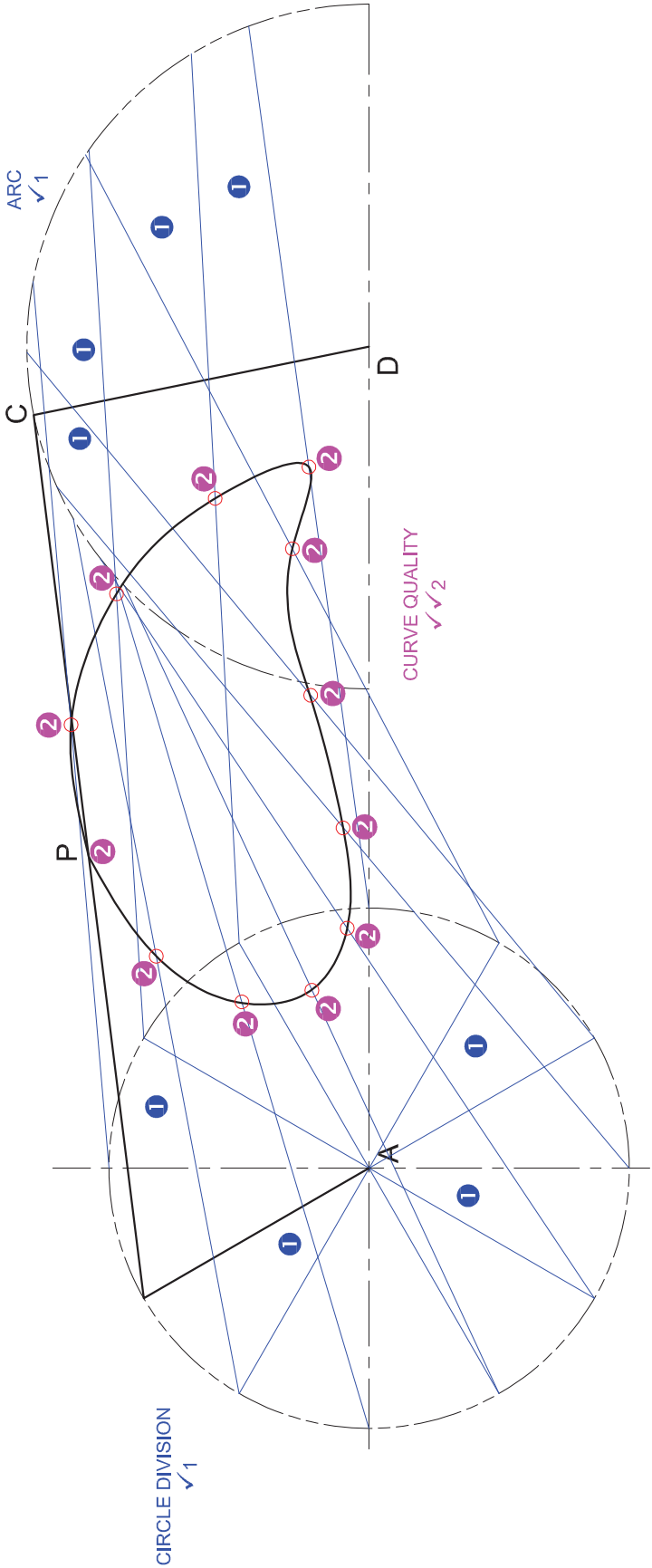


ASSESSMENT CRITERIA	
1	CONSTRUCTION
2	POINTS + CURVES
3	LABELS
PENALTIES (-)	
2.2 SUBTOTAL	
2.1 SUBTOTAL	
TOTAL	

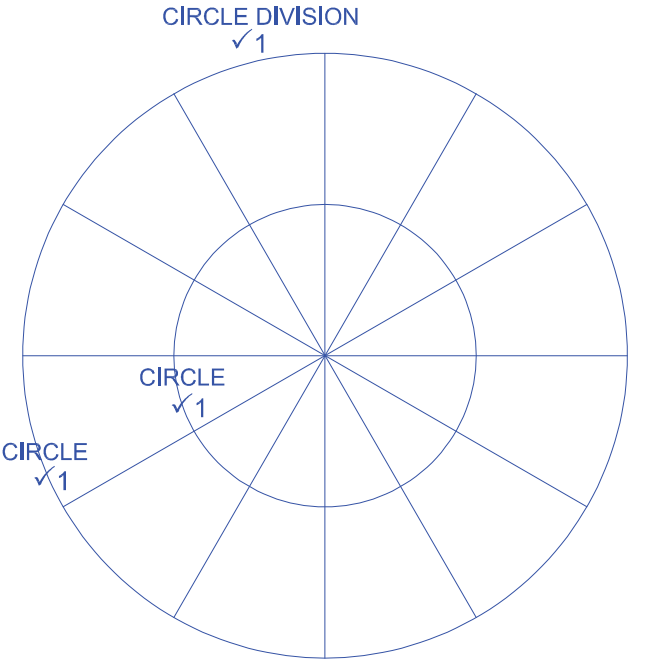
PAPER 2 QUESTION 2.2
GRADE 12
DBE/November 2014
MEMORANDUM



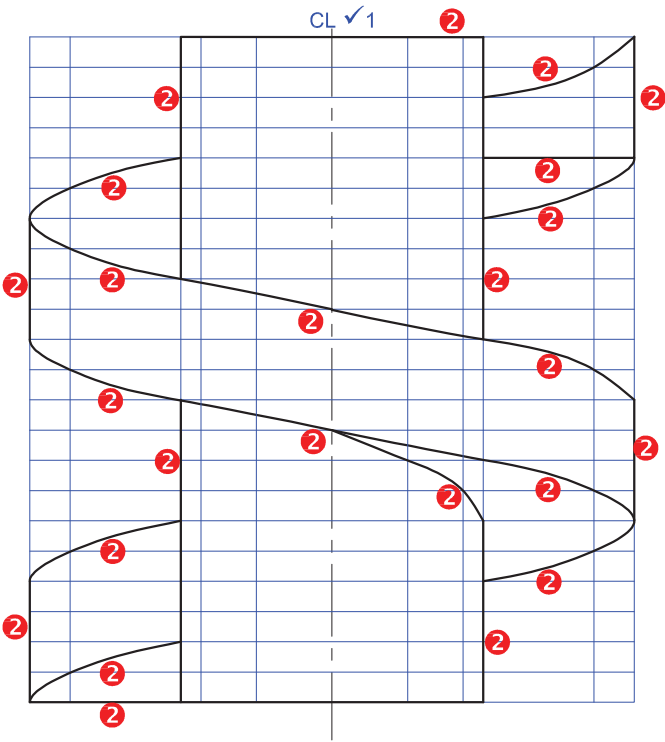




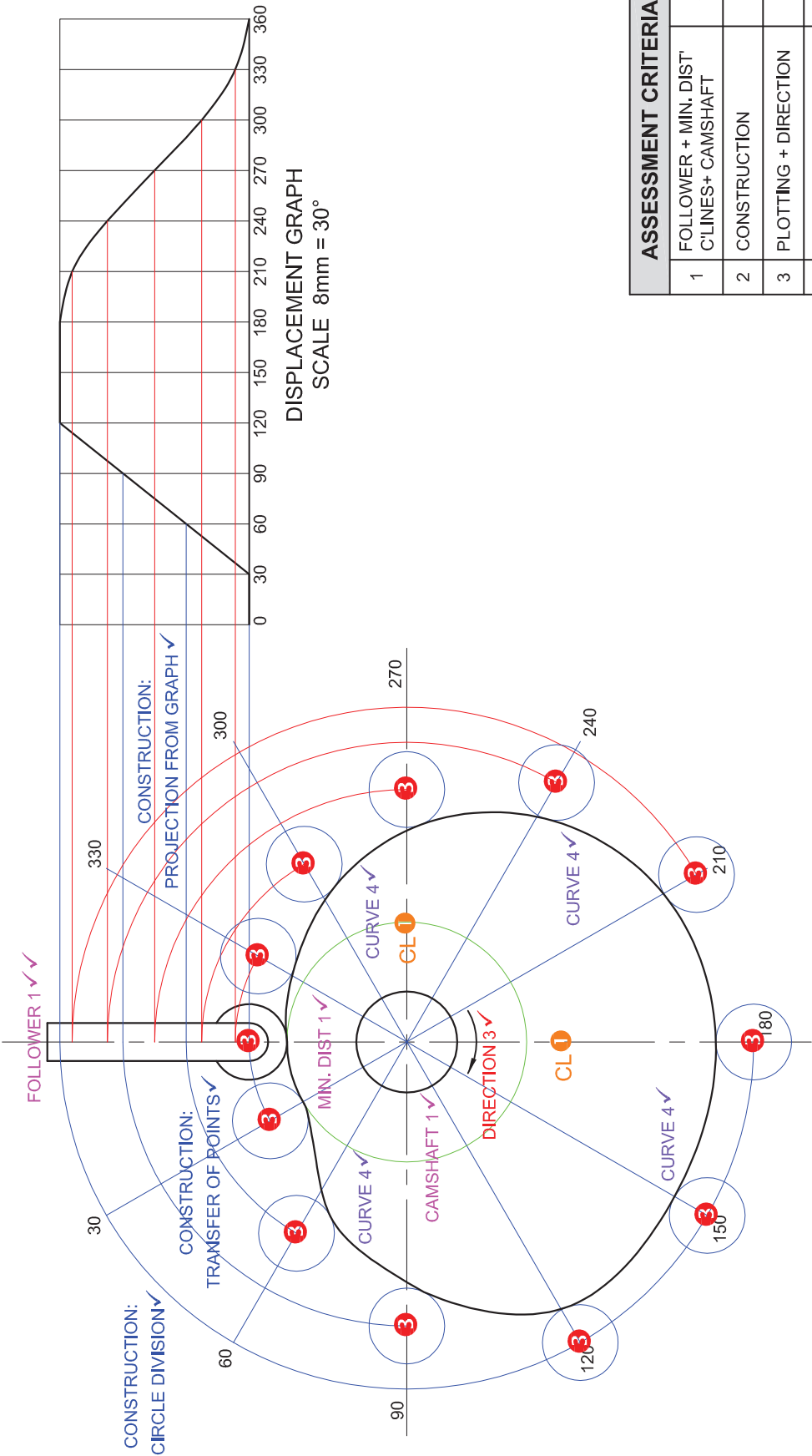
ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	LOCUS OF P	8
SUBTOTAL		14



PITCH ✓1
HORIZONTAL DIVISION ✓1
VERTICAL PROJECTION ✓1
LEFT HAND ✓1



ASSESSMENT CRITERIA		
1	CL + CONSTRUCTION	8
2	CHUTE	12
SUBTOTAL		20



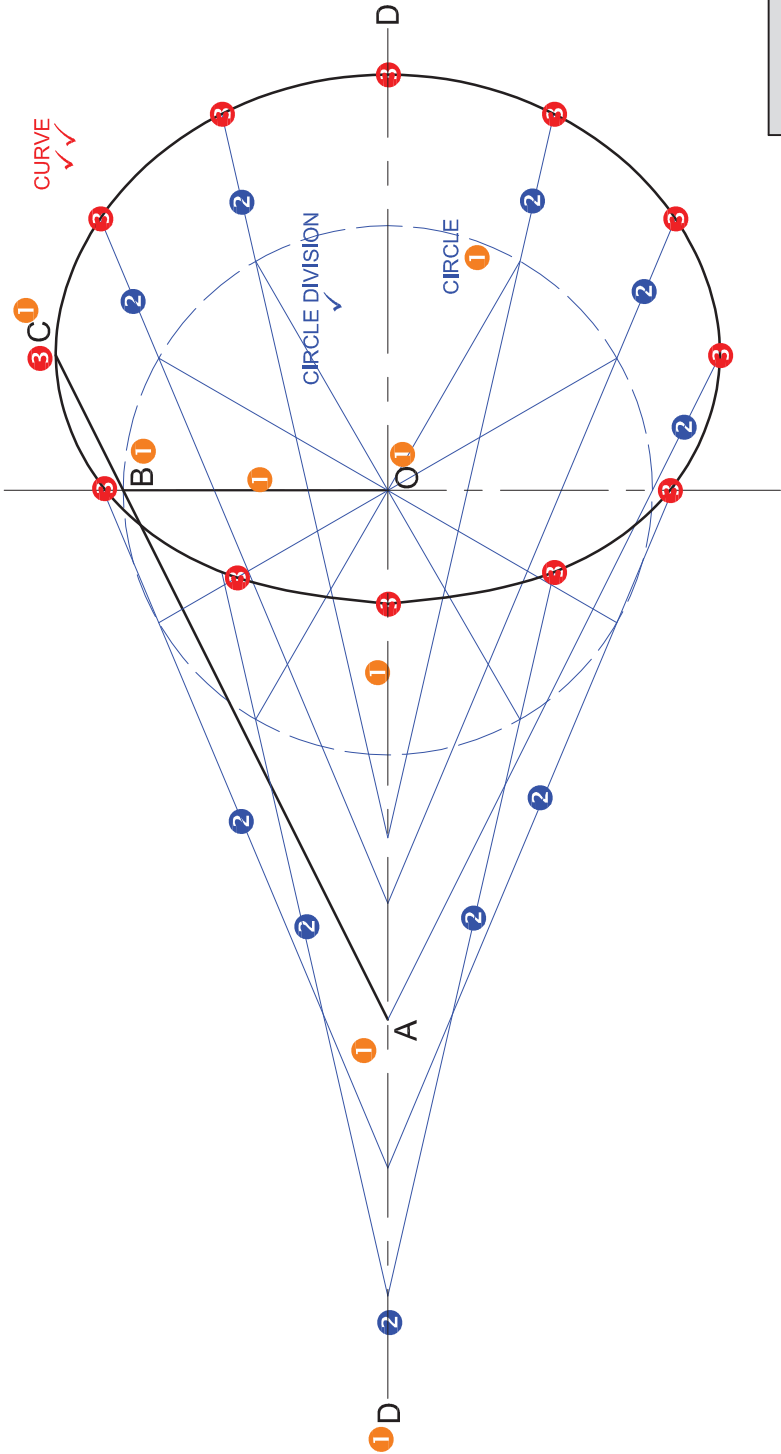
ASSESSMENT CRITERIA	
1	FOLLOWER + MIN. DIST' C'LINES+ CAMSHAFT
2	CONSTRUCTION
3	PLOTTING + DIRECTION
4	CURVE
SUBTOTAL	
19	



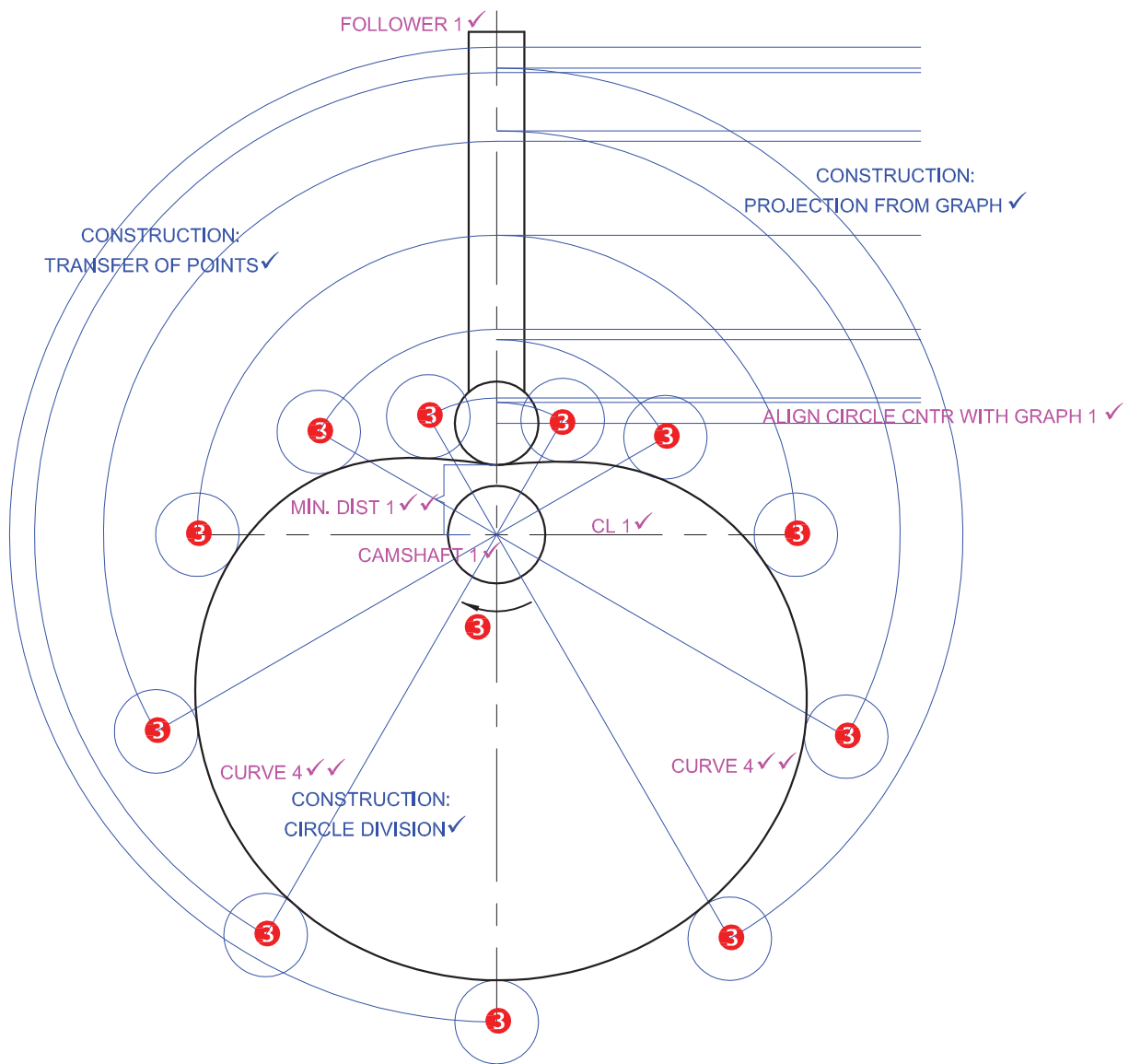
ASSESSMENT CRITERIA	
1	CONSTRUCTION
2	POINTS
SUBTOTAL	
21	



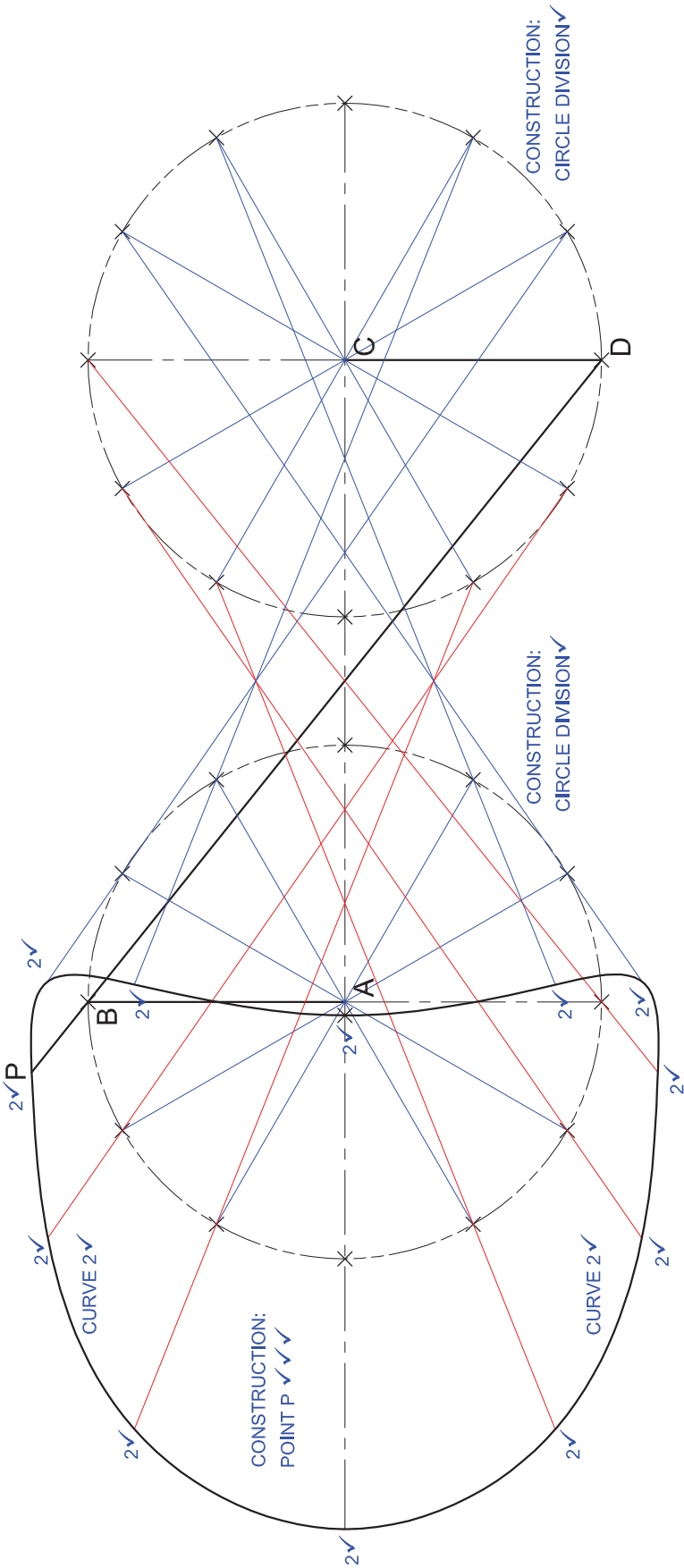
PAPER 2 QUESTION 2.1
GRADE 12
NOVEMBER 2012
MEMORANDUM



ASSESSMENT CRITERIA		
1	GIVEN	4
2	CONSTRUCTION	6
3	LOCUS + CURVE	8
SUBTOTAL		18
TOTAL		42

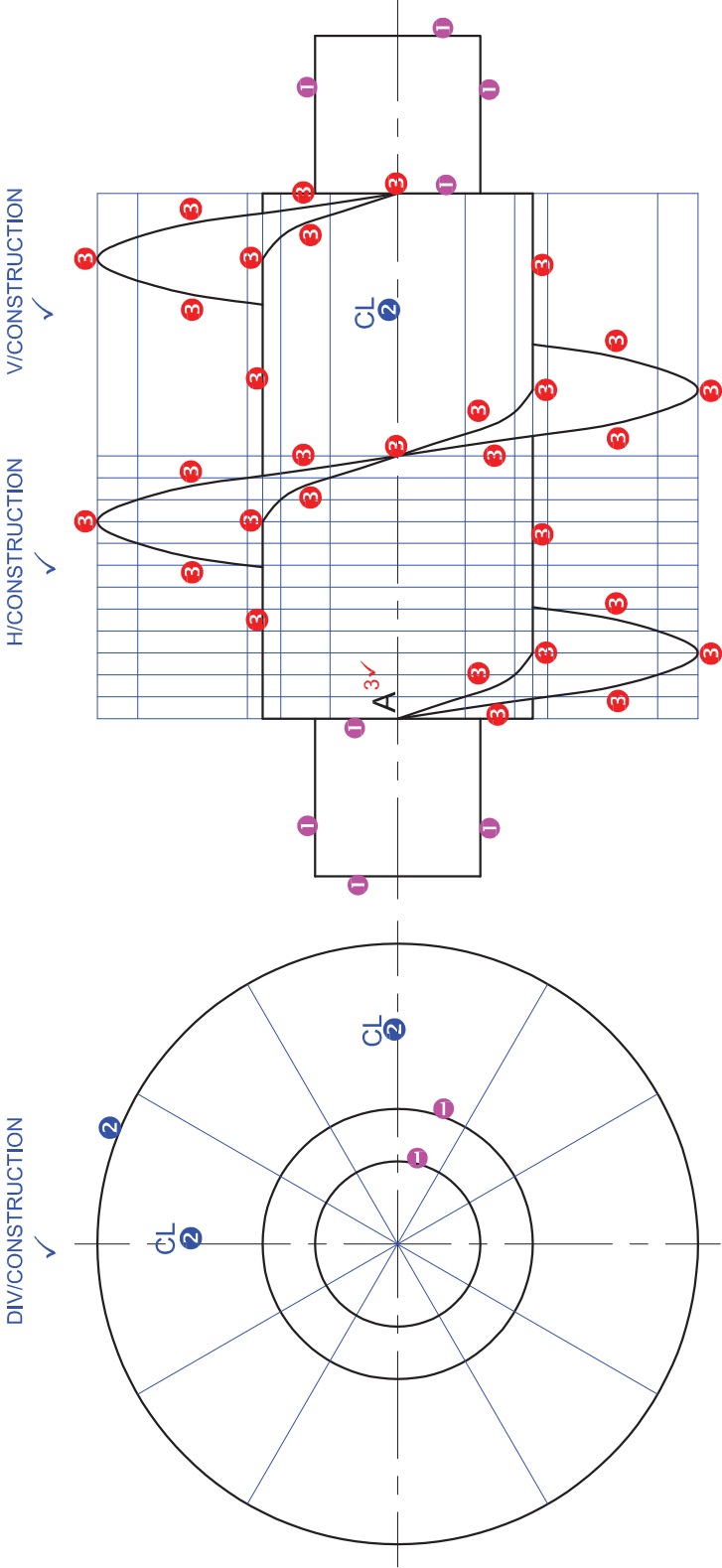


ASSESSMENT CRITERIA	
1. FOLLOWER + MIN. DIST*+ CENTRE LINE + CAMSHAFT	6
2. CONSTRUCTION	3
3. PLOTTING + DIRECTION	6
4. CURVE	4
2.1 SUBTOTAL	19

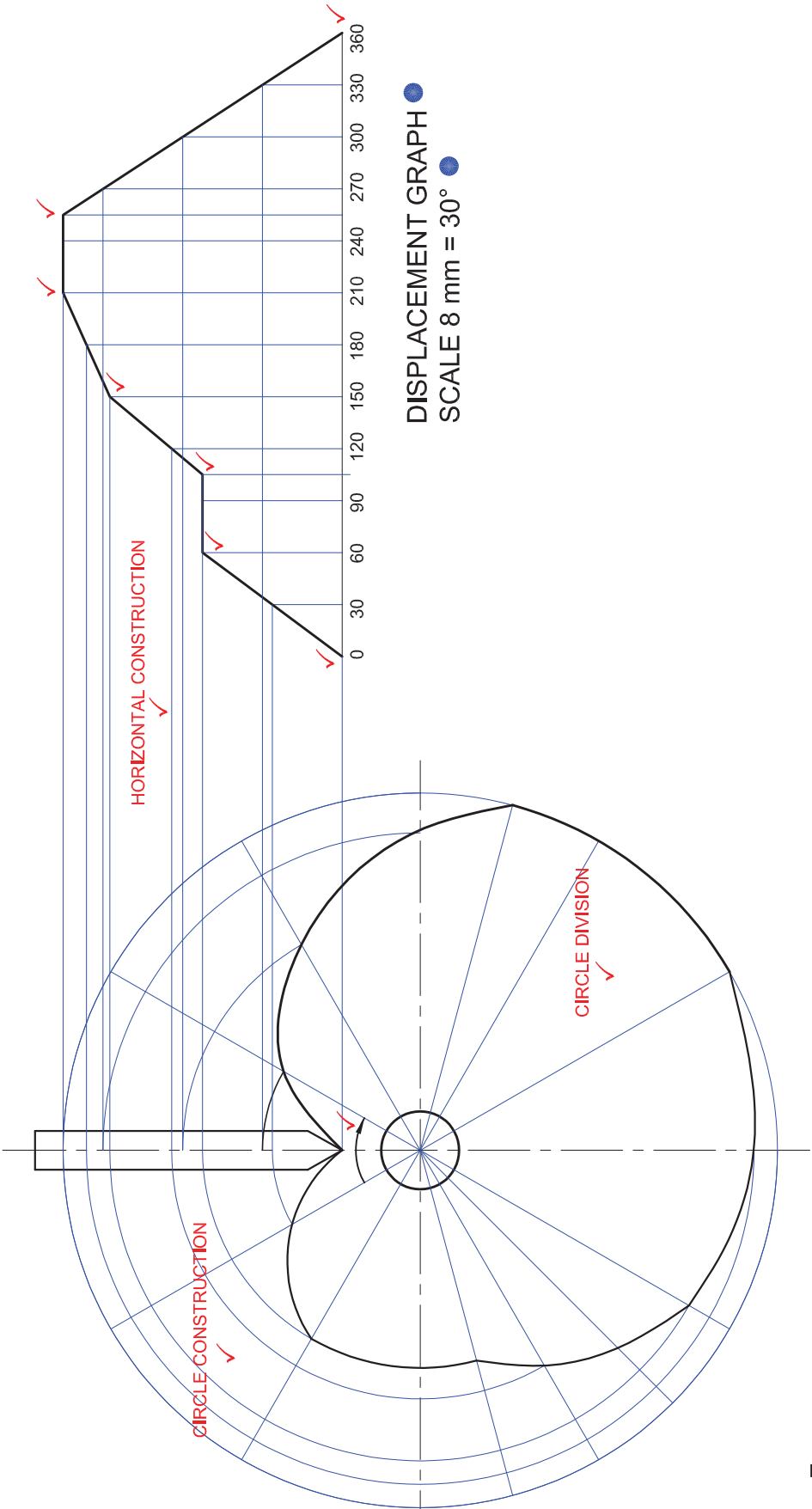


ASSESSMENT CRITERIA	
1. CONSTRUCTION	5
2. LOCUS OF P	14
2.2 SUBTOTAL	19

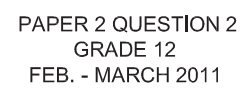
RIGHT-HAND TURN 3 ✓

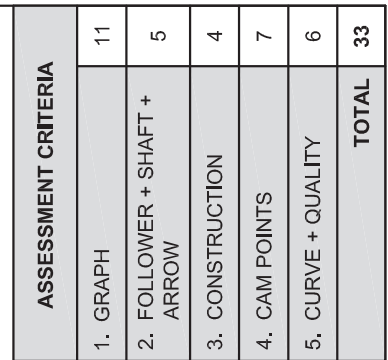


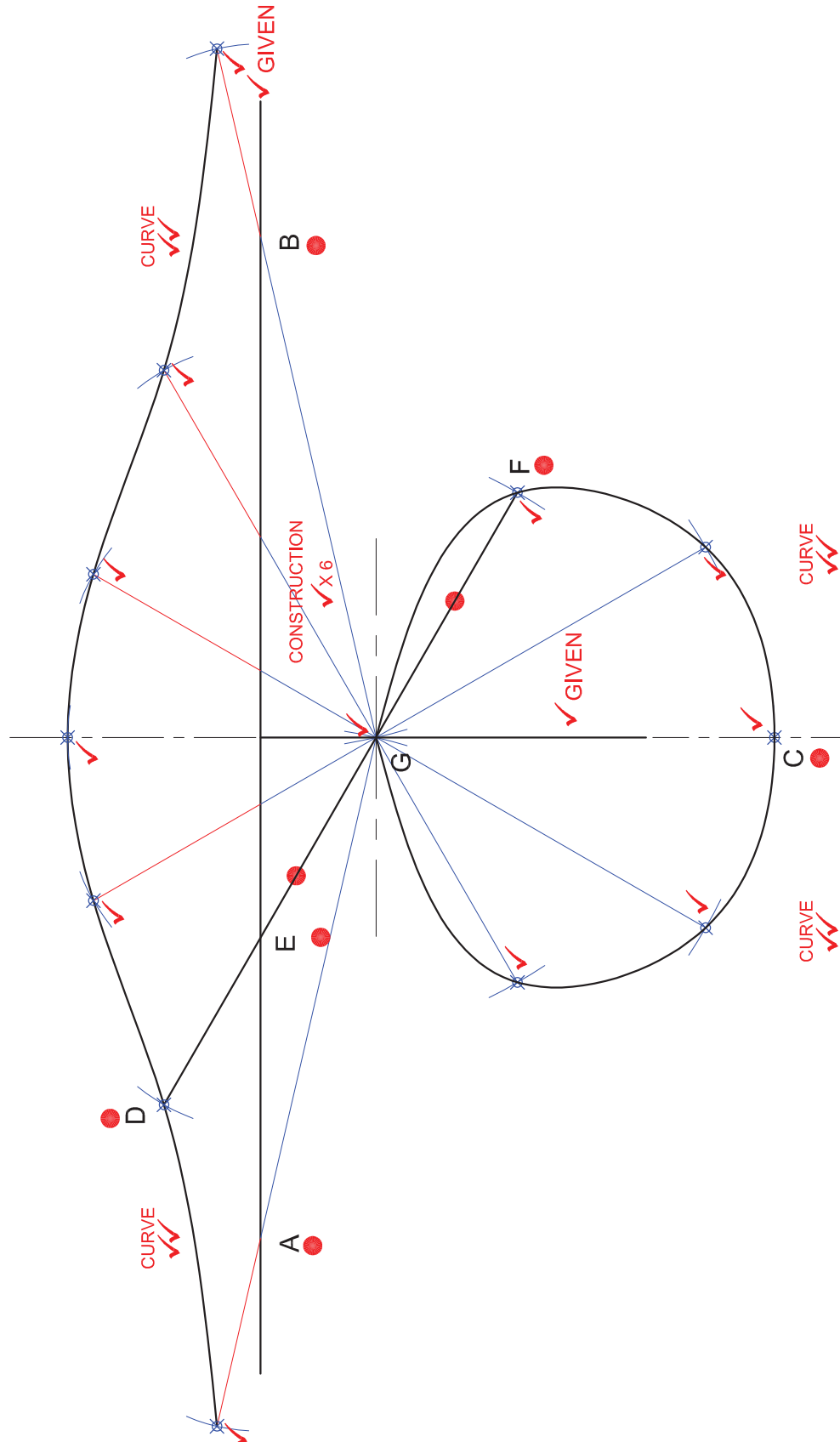
ASSESSMENT CRITERIA	
1. GIVEN	5
2. CENTRE LINES + CONSTR'	5
3. HELIX/AUGER	17
SUBTOTAL	
	27



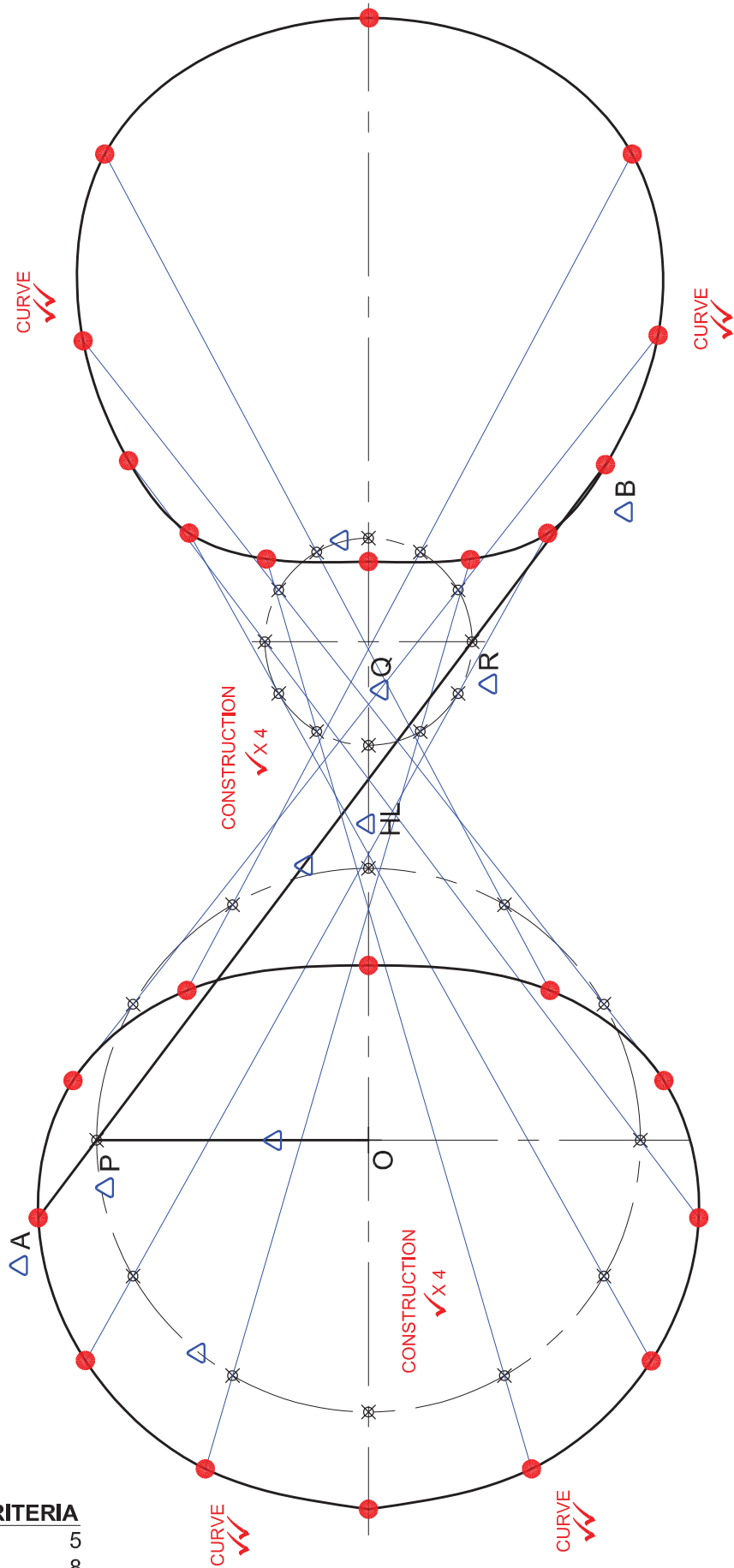
ASSESSMENT CRITERIA	
DISPLACEMENT GRAPH	7
CONSTRUCTION	3
LABELS + ARROW	2
SUBTOTAL	12
TOTAL	39



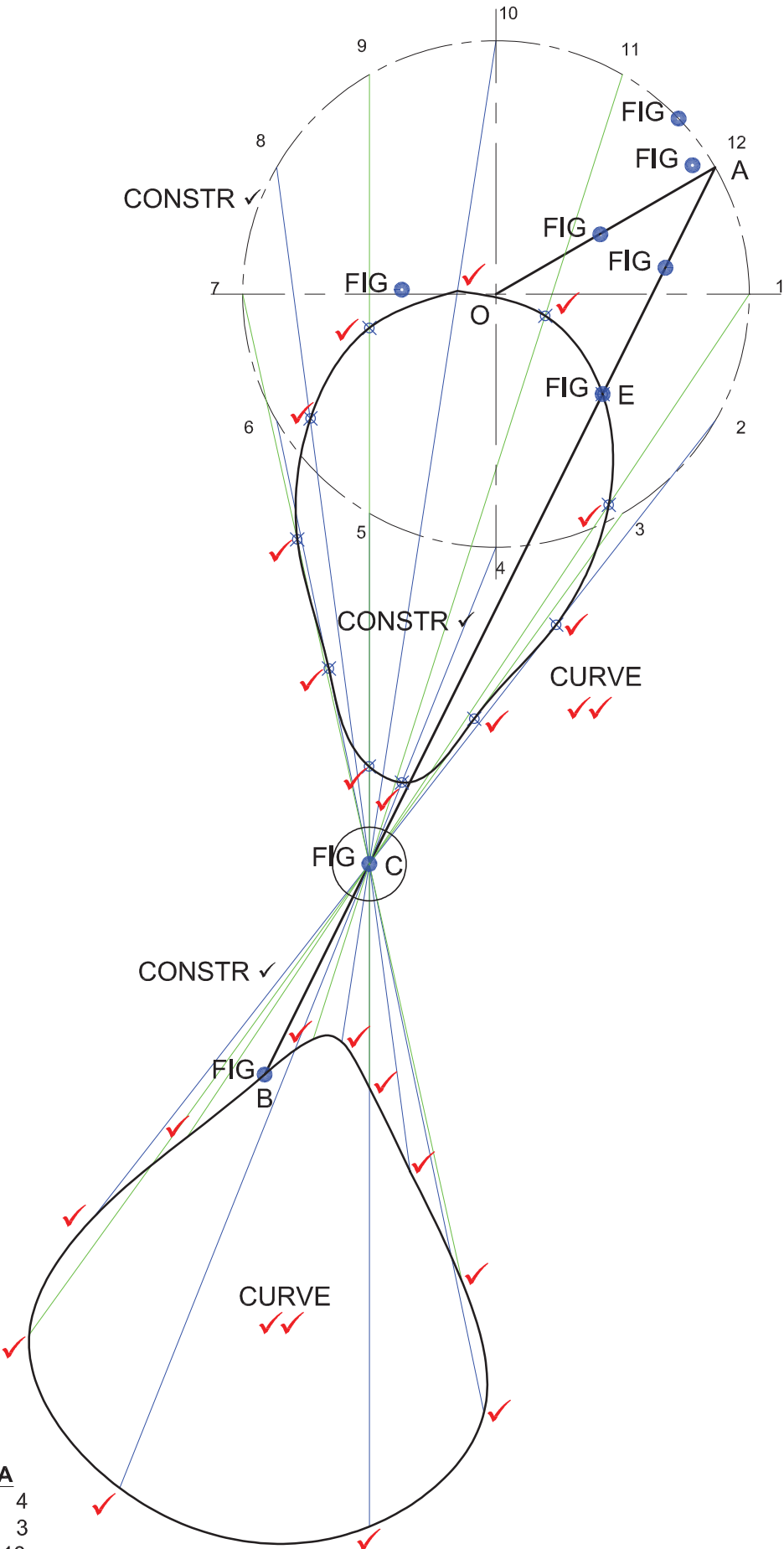


**ASSESSMENT CRITERIA**

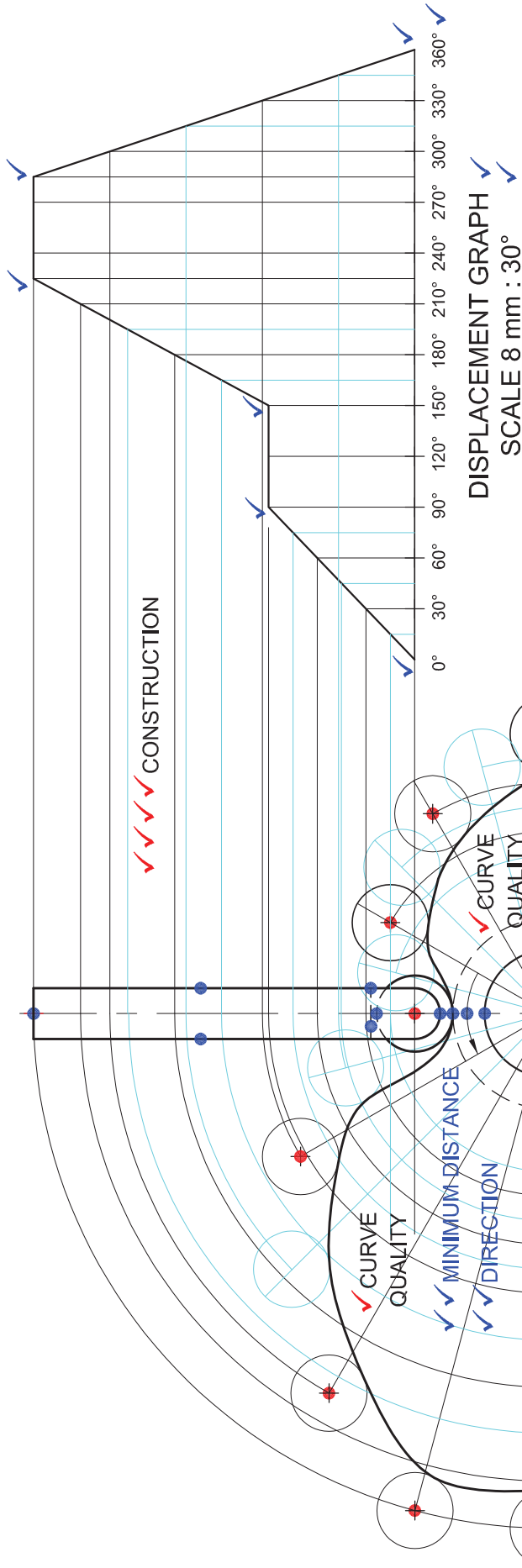
GIVEN + LABELS	6
CONSTRUCTION	6
LOCUS D + CURVE	11
LOCUS F + CURVE	10
TOTAL	33



ASSESSMENT CRITERIA	
GIVEN + LABELS	5
CONSTRUCTION	8
LOCUS A + CURVE	10
LOCUS B + CURVE	10
TOTAL	33

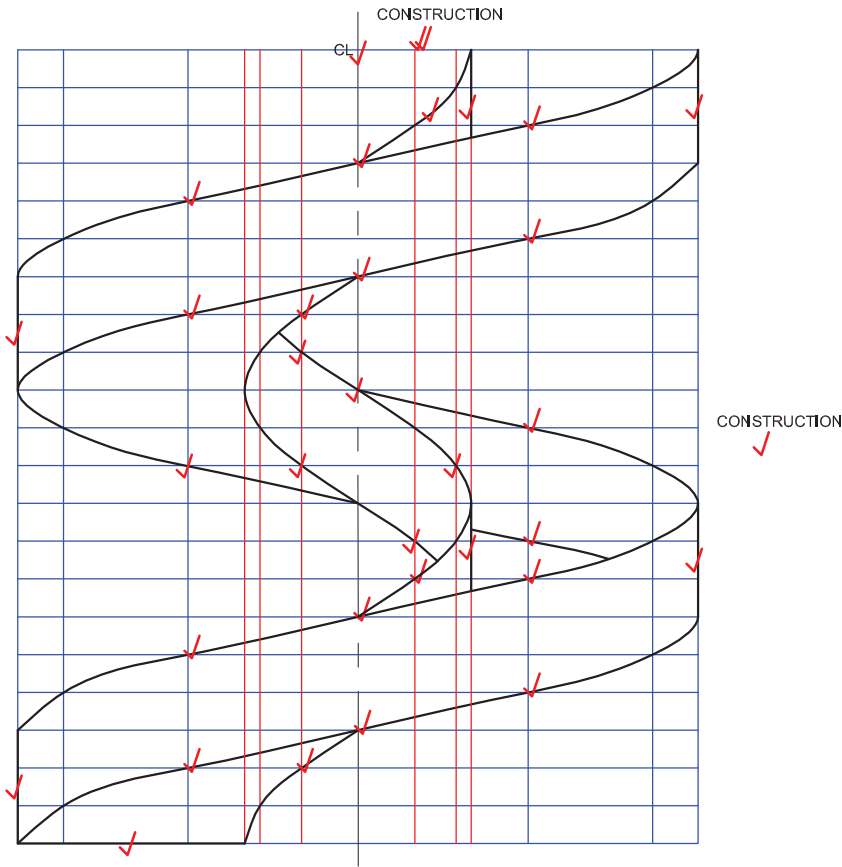
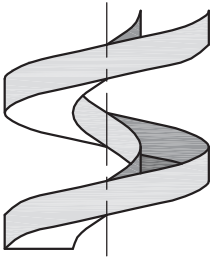
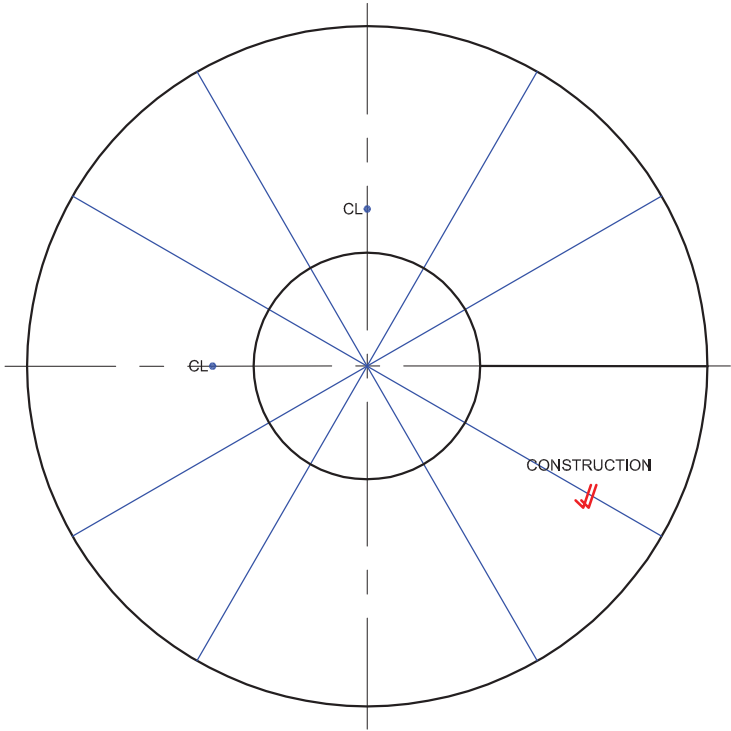


ASSESSMENT CRITERIA	
GIVEN FIGURE	4
CONSTRUCTION	3
LOCUS B	13
LOCUS E	13
TOTAL	33



ASSESSMENT CRITERIA

GRAPH	9
GIVEN INFO: FOLLOWER, MIN HEIGHT	
DIRECTION ARROW	11
SHAFT and CLs	4
CONSTRUCTION	12
ROLLER POSITIONS + CURVE QUALITY	12
TOTAL	36



ASSESSMENT CRITERIA

CONSTRUCTION	= 6
TOP VIEW	= 2
DIRECTION	= 4
CENTRE LINES	= 2
HELIX	= 31
TOTAL	= 45