



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

ENGINEERING GRAPHICS AND DESIGN P2

NOVEMBER 2018

MARKING GUIDELINES

MARKS: 100

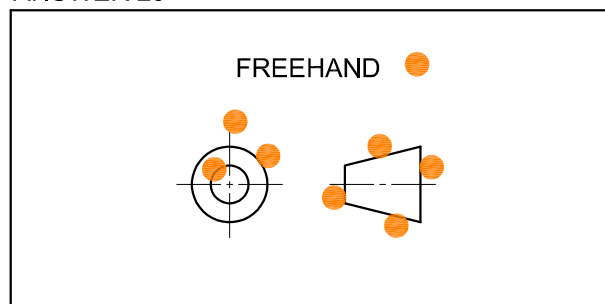
These marking guidelines consist of 7 pages.

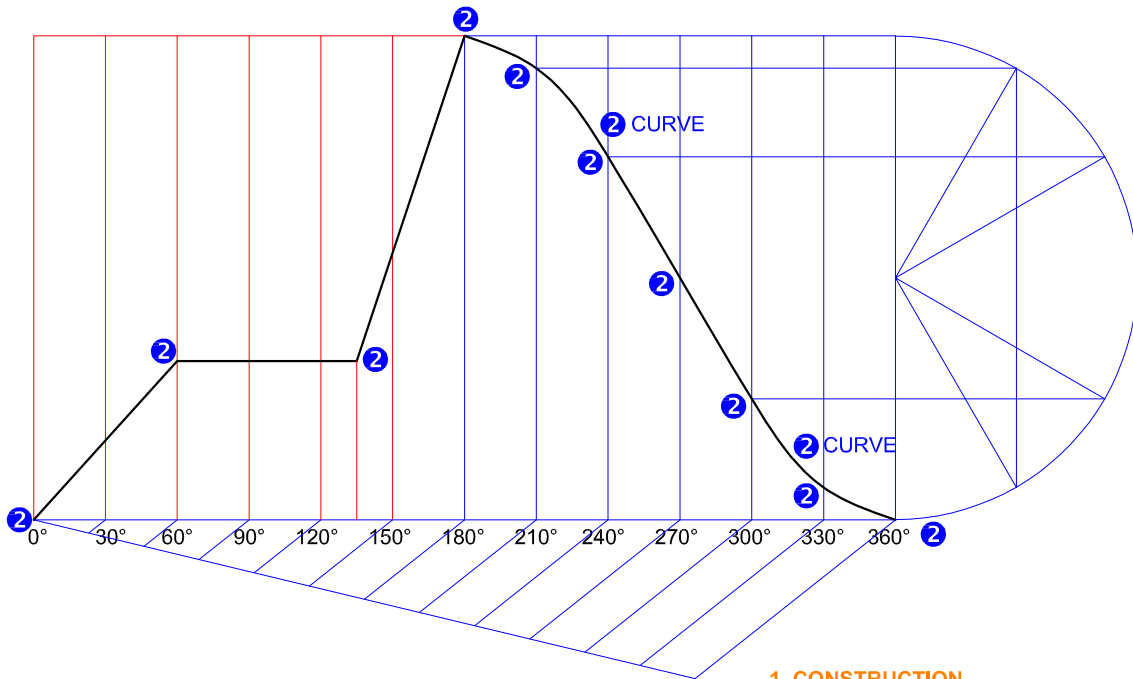
APPROVED

UMALUSI MODERATORS
A. BAGUS / S. De BRUIN
27.11.2018
27/11/2018

ANSWERS		
1	WENDY	1
2	2018-02-10	1
3	APPROVING THE DRAWING	1
4	MC 25-V2018	1
5	TUNGSTEN	1
6	8	1
7	20 °C	1
8	25 or 25,00	1
9	REPRESENTING A PART NOT THERE	1
10	SHAFT CONTINUES/PART OF SHAFT	1
11	CENTRE OF CIRCLES OR ARCS - SHAFTS - SYMMETRY - PCD - POSITION - A CUTTING PLANE - ASSEMBLY	2
12	3	1
13	FRONT VIEW	1
14	C: 139 ✓ D: Ø15,85 ✓ E: Ø18 ✓	5
15	84°	1
16	REVOLVED SECTION	1
17	PART SECTION	1
18	SUCCESSIVE SECTIONS	2
19	2,9 mm	2
20	<i>See below</i>	4
TOTAL		30

ANSWER 20





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

1 CONSTRUCTION

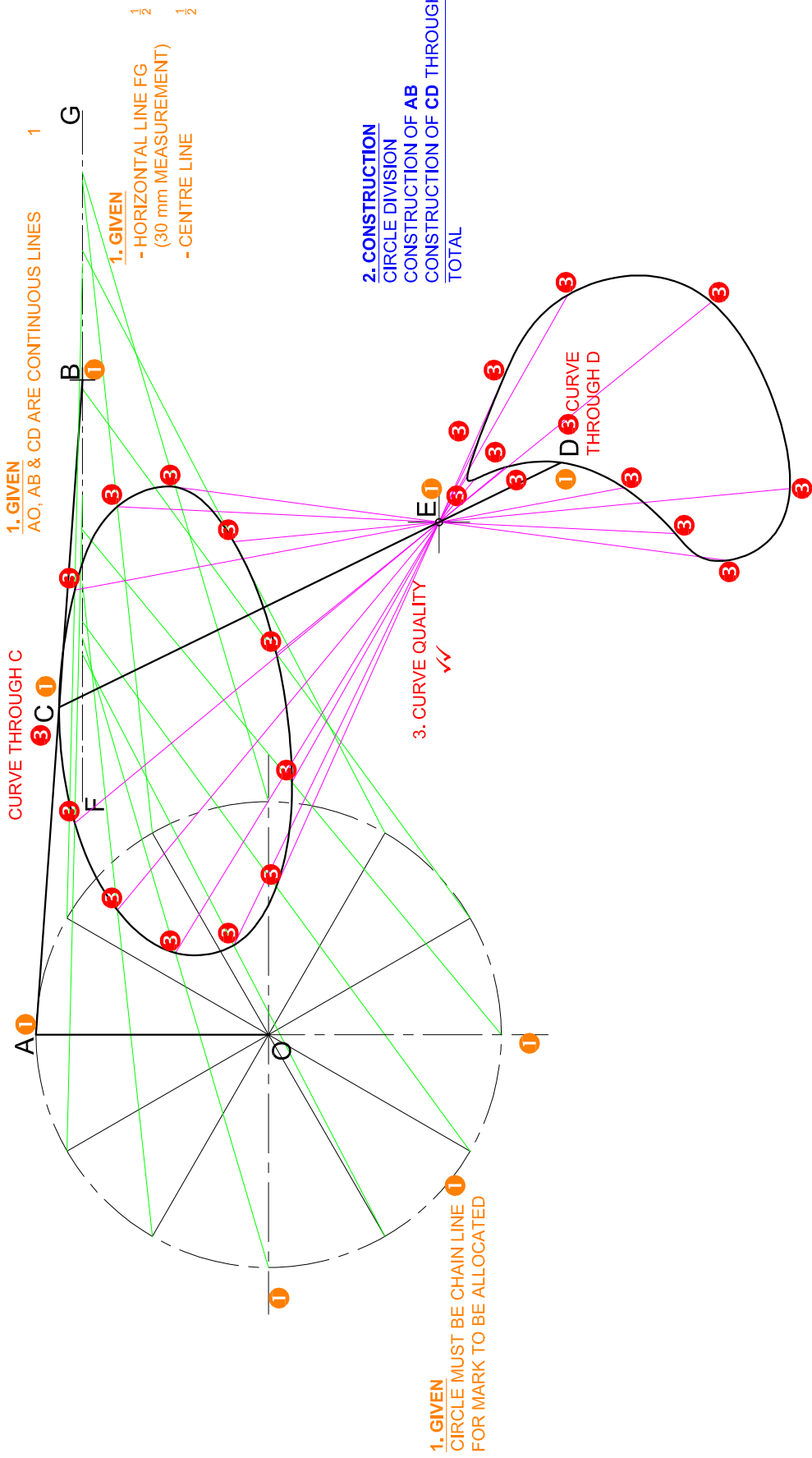
- LENGTH (114) 1
- LINE DIVISION CONSTRUCTION 1
- 114 INTO 12 EQUAL PARTS 2
- SIMPLE HARMONIC MOTION 1
- * SEMI CIRCLE 2
- * CIRCLE DIVISION 2
- * HORIZONTAL PROJECTION 2

TOTAL 4

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

PAPER 2 QUESTION 2.1
 GRADE 12
 NOVEMBER 2018
 MARKING GUIDELINE

Handwritten signatures and initials on the right margin.



1. GIVEN
AO, AB & CD ARE CONTINUOUS LINES / 1

1. GIVEN
- HORIZONTAL LINE FG
(30 mm MEASUREMENT)
- CENTRE LINE / 2

2. CONSTRUCTION
CIRCLE DIVISION / 1
CONSTRUCTION OF AB / 2
CONSTRUCTION OF CD THROUGH E / 2
TOTAL / 5

1. GIVEN
CIRCLE MUST BE CHAIN LINE
FOR MARK TO BE ALLOCATED / 1

3. CURVE QUALITY
✓✓

D CURVE
THROUGH D

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

PAPER 2 QUESTION 2.2
GRADE 12
NOVEMBER 2018
MARKING GUIDELINE

✓✓✓4 CIRCLE CONSTRUCTION/ PROJECTION

✓4 FOR ALL CENTRE LINES

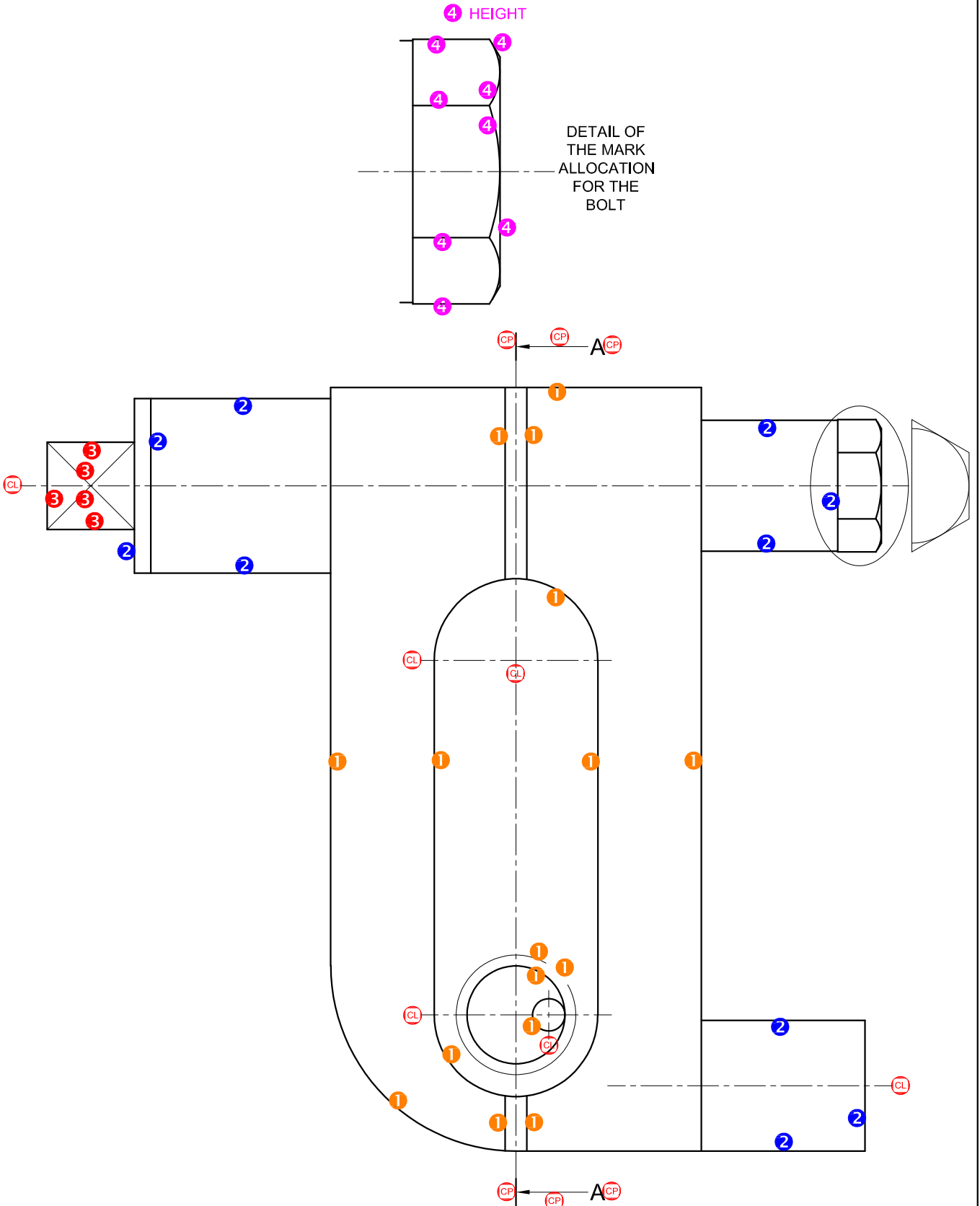
✓1 CORRECT PLACEMENT

1✓

PAPER 2 QUESTION 3
 GRADE 12
 NOVEMBER 2018
 MARKING GUIDELINE

ASSESSMENT CRITERIA		
1	PLACEMENT + AUX. VIEW	2
2	FRONT PORTION	22½
3	BACK PORTION	5
4	CIRCLE +CIRCLE CONSTRUCTION + CL	8½
TOTAL		38

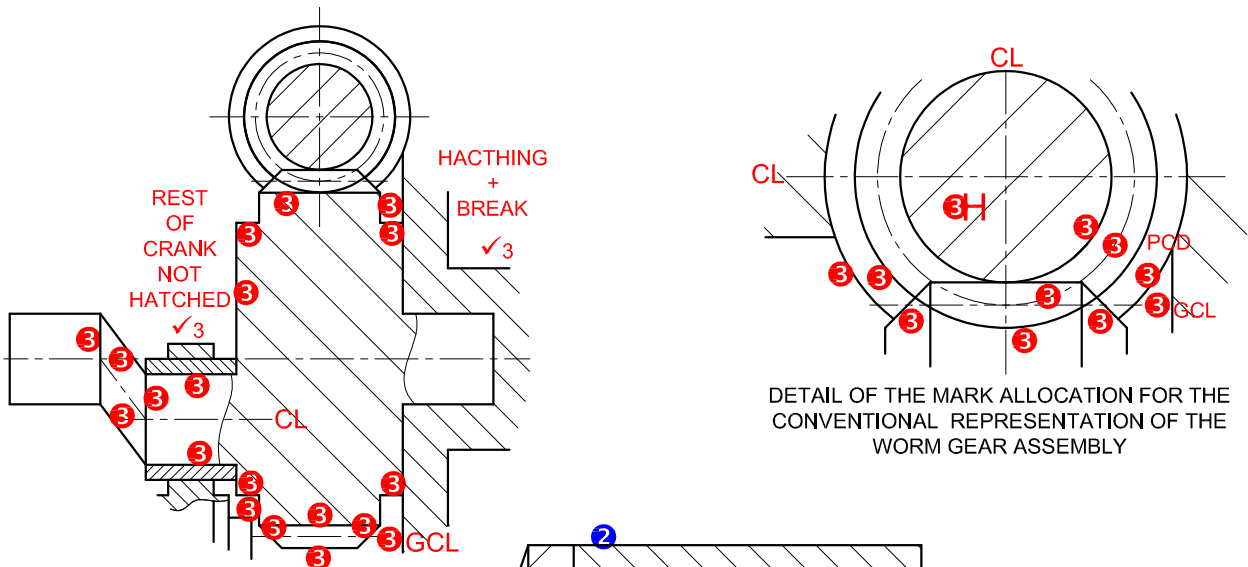
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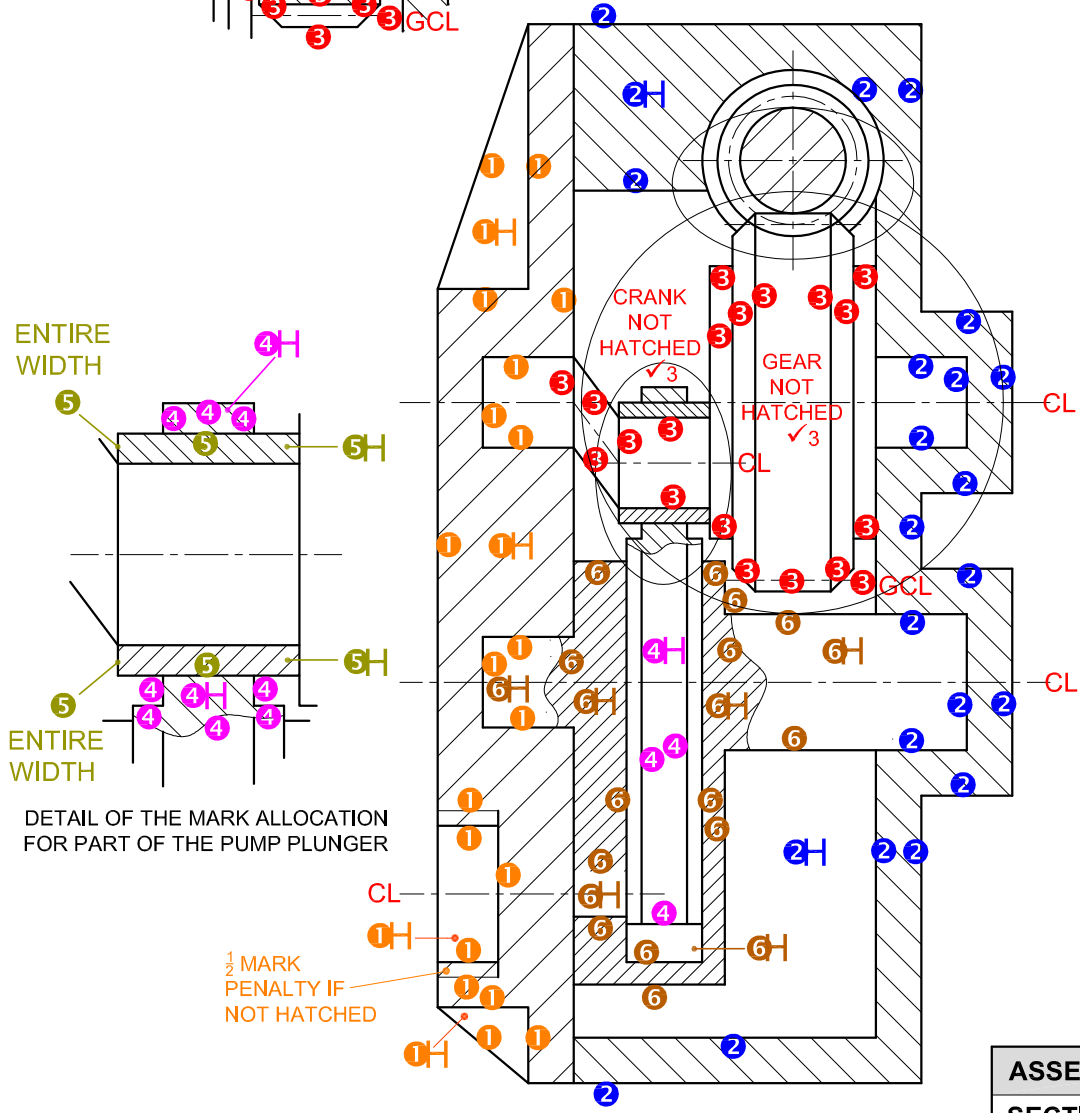
ASSESSMENT CRITERIA		
FRONT VIEW		
1	COVER PLATE	8
2	PUMP BODY + BUSH	5
3	WORM SHAFT	2 1/2
4	M14 RETAINING BOLT	4 1/2
SUBTOTAL		20

PAPER 2 QUESTION 4
 GRADE 12
 NOVEMBER 2018
 MARKING GUIDELINE

Handwritten signatures and initials: AB, [unclear], Lily



DETAIL OF THE MARK ALLOCATION FOR THE CONVENTIONAL REPRESENTATION OF THE WORM GEAR ASSEMBLY



DETAIL OF THE MARK ALLOCATION FOR PART OF THE PUMP PLUNGER

3. ASSEMBLY
 1 MARK FOR EVERY COMPONENT CORRECTLY ASSEMBLED (10 PARTS -1) = 9

1. CENTRE LINE MARK ALLOCATION
 SANS COMPLIANT (LINE TYPE) 2
 14 CENTRE LINES 2
TOTAL 4

PAPER 2 QUESTION 4
 GRADE 12
 NOVEMBER 2018
 MARKING GUIDELINE

ASSESSMENT CRITERIA		
SECTIONAL RIGHT VIEW		
1	COVER PLATE	11 1/2
2	PUMP BODY	11 1/2
3	CRANK GEAR + SHAFT	17
4	PUMP PLUNGER	7
5	SPLIT BUSH	3
6	PUMP HOUSING	10
SUBTOTAL		60

Handwritten signatures and initials.