



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

ENGINEERING GRAPHICS AND DESIGN P2

NOVEMBER 2017

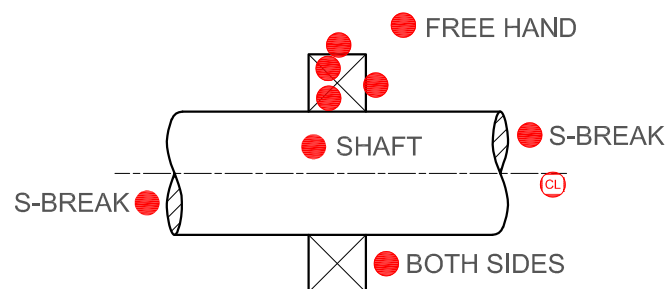
MARKING GUIDELINES

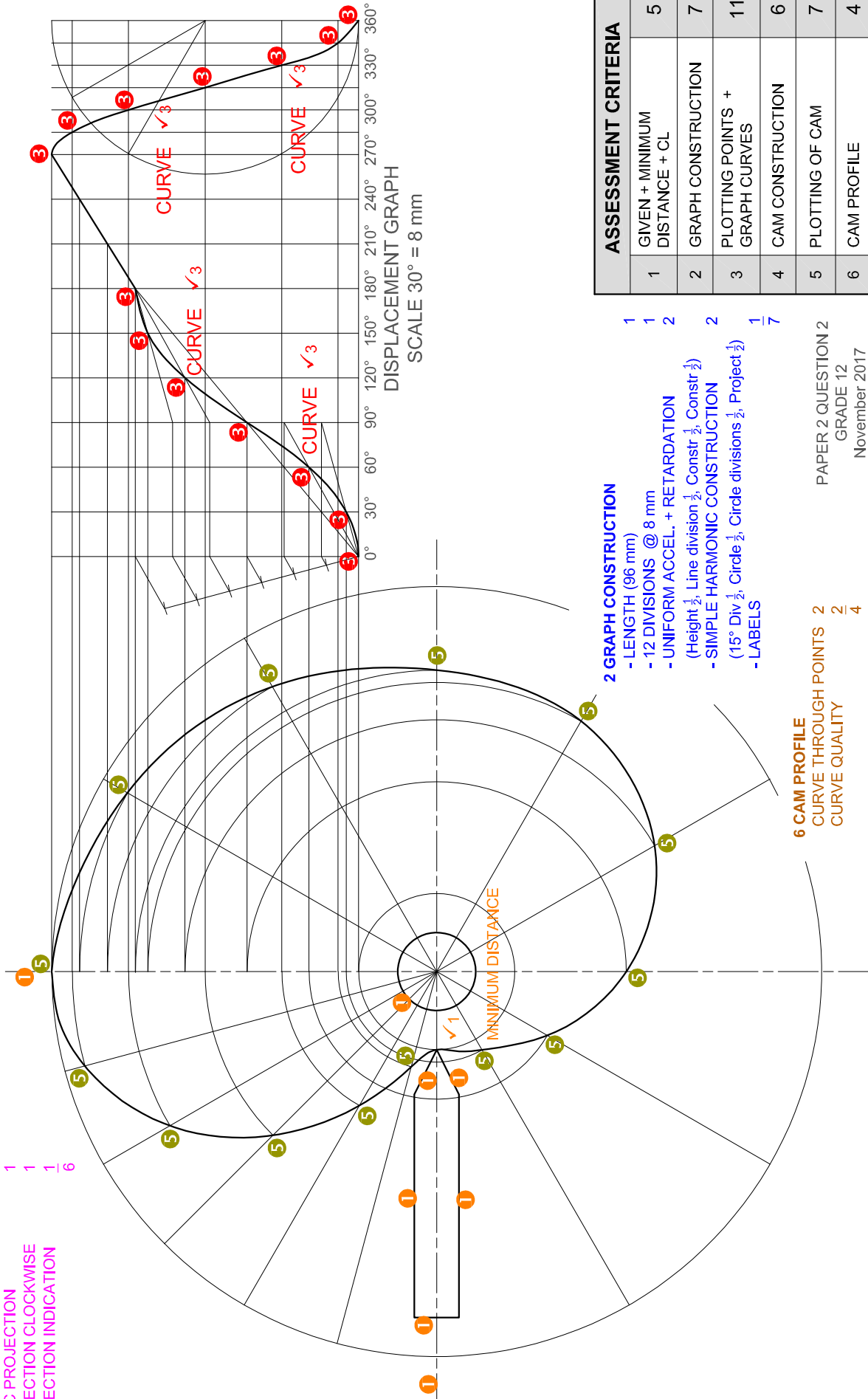
MARKS: 200

This marking guidelines consist of 6 pages.

ANSWERS		
1	SHIFTING SPANNER	1
2	1 : 1	1
3	AUTOCAD 2017	1
4	2017-01-08	1
5	STEYN	1
6	R2	1
7	TOOL STEEL	1
8	HARDENING	1
9	THIRD ANGLE PROJECTION	1
10	128	1
11	79° WITH A VARIANCE OF 1° EITHER WAY	1
12	TO SET AT A SPECIFIC SIZE/ TO VERIFY OR DETERMINE A SPECIFIC SIZE/ JAW OPENING SIZE	2
13	PARTIAL SECTION	1
14	REVOLVED SECTION	1
15	BETTER GRIP/TURN EASIER	1
16	REAR VIEW/BACK VIEW	1
17	SHOW DETAIL	1
18	ALIGNED SECTION	1
19	3.75	2
20	7	1
21	PERPENDICULAR	1
22	<i>See below</i>	5
TOTAL		28

ANSWER 22: Conventional representation of a bearing on a section of a shaft





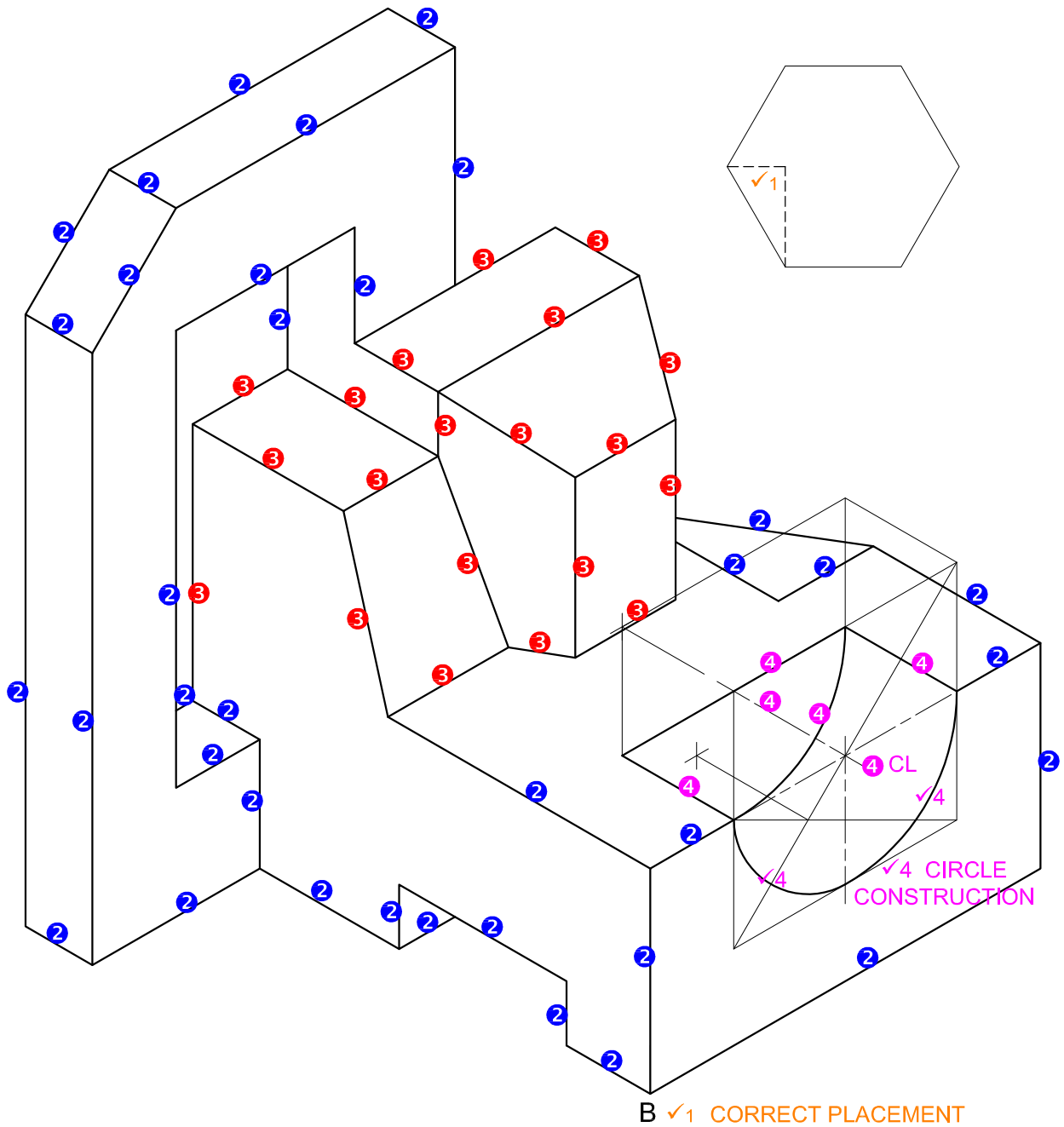
- 4 CAM CONSTRUCTION**
- ALIGN WITH GRAPH 1
 - PROJECTION FROM GRAPH 1
 - CIRCLE DIVISION 1
 - ARC PROJECTION 1
 - DIRECTION CLOCKWISE 1
 - DIRECTION INDICATION 1
- 6

- 2 GRAPH CONSTRUCTION**
- LENGTH (96 mm) 1
 - 12 DIVISIONS @ 8 mm 1
 - UNIFORM ACCEL. + RETARDATION 2
 - (Height $\frac{1}{2}$, Line division $\frac{1}{2}$, Constr $\frac{1}{2}$, Constr $\frac{1}{2}$)
 - SIMPLE HARMONIC CONSTRUCTION 2
 - (15° Div $\frac{1}{2}$, Circle $\frac{1}{2}$, Circle divisions $\frac{1}{2}$, Project $\frac{1}{2}$)
 - LABELS 1
- 7

- 6 CAM PROFILE**
- CURVE THROUGH POINTS 2
 - CURVE QUALITY 2
- 4

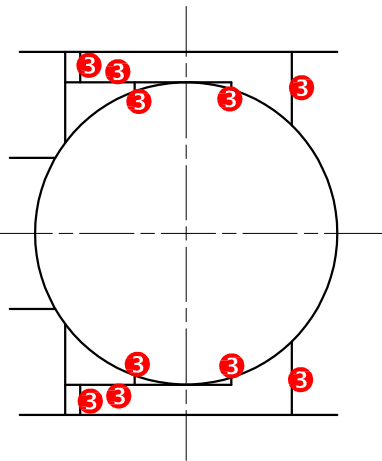
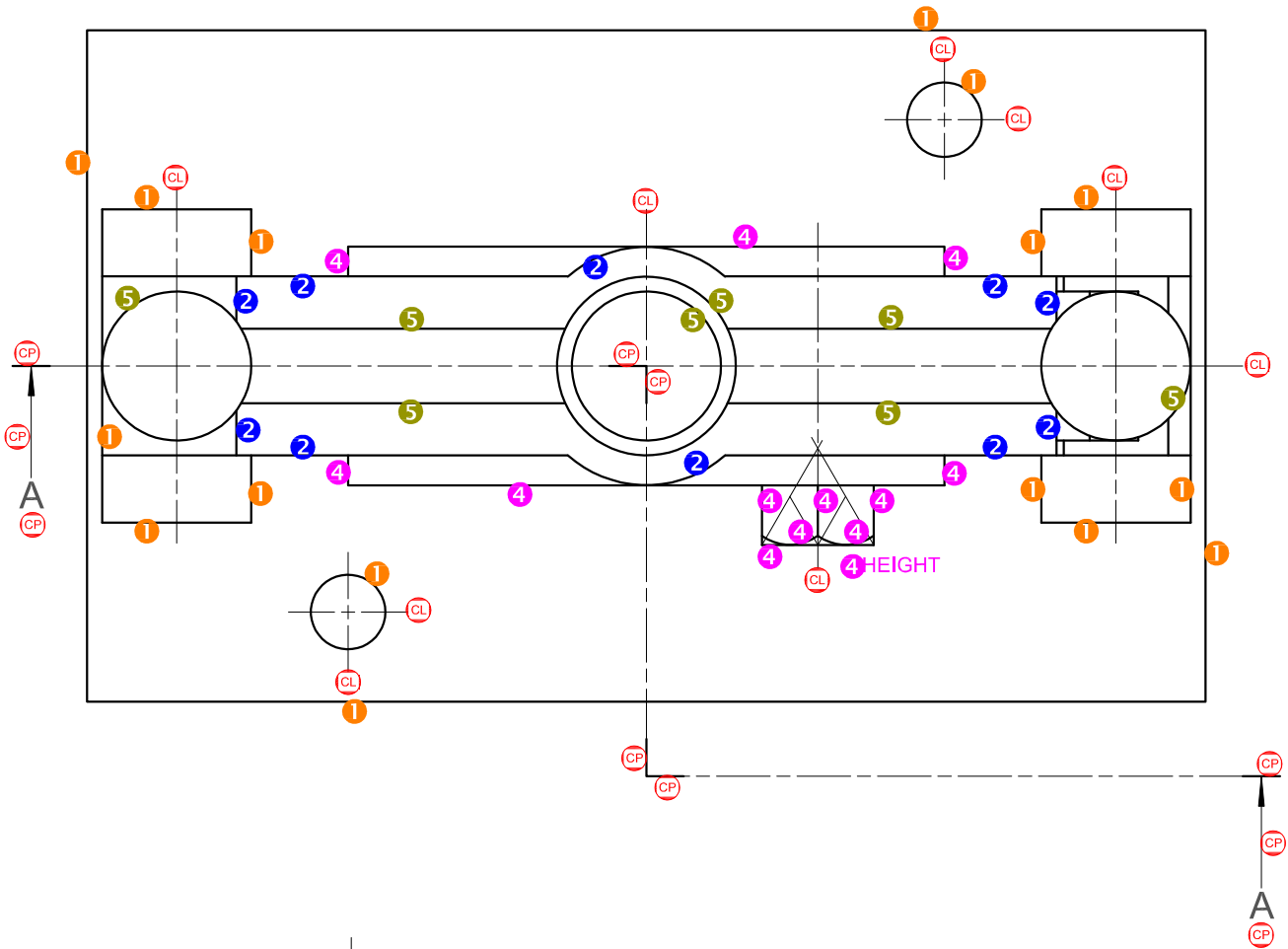
ASSESSMENT CRITERIA		
1	GIVEN + MINIMUM DISTANCE + CL	5
2	GRAPH CONSTRUCTION	7
3	PLOTTING POINTS + GRAPH CURVES	11
4	CAM CONSTRUCTION	6
5	PLOTTING OF CAM	7
6	CAM PROFILE	4
TOTAL		40

PAPER 2 QUESTION 2
 GRADE 12
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 MARKING GUIDELINES



ASSESSMENT CRITERIA		
1	PLACEMENT + AUX. VIEW	2
2	FRONT + REAR	18
3	MIDDLE SECTION	10
4	CIRCLE + CIRCLE CONSTRUCTION + CL	6
TOTAL		36

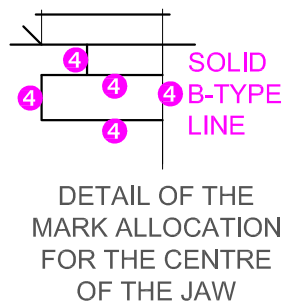
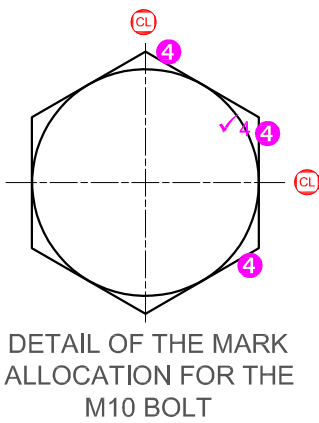
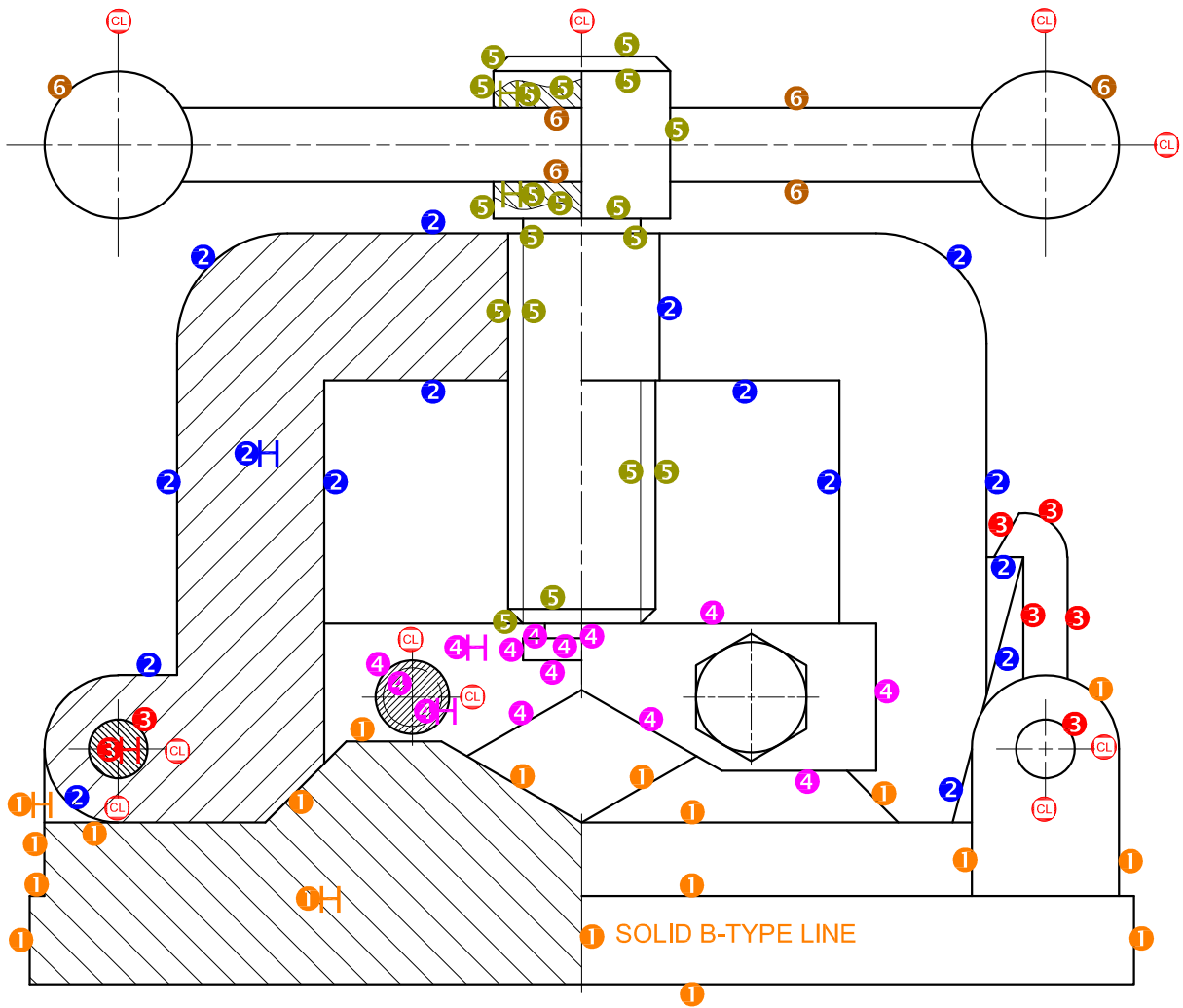
PAPER 2 QUESTION 3
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 MARKING GUIDELINES



DETAIL OF THE MARK ALLOCATION FOR THE HOOK

ASSESSMENT CRITERIA		
TOP VIEW		
1	BASE	8
2	FRAME	5
3	HOOK	5
4	JAW + M10 BOLT	6 $\frac{1}{2}$
5	WORM SCREW + LEVER	4
SUBTOTAL		28$\frac{1}{2}$

PAPER 2 QUESTION 4 TV
 GRADE 12
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 MARKING GUIDELINES



ASSESSMENT CRITERIA		
SECTIONAL FRONT VIEW		
1	BASE	9½
2	FRAME	8
3	PINS + HOOK	3½
4	JAW + M10 BOLT	9½
5	WORM SCREW	9½
6	LEVER	3
SUBTOTAL		43

PAPER 2 QUESTION 4 SFV
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 MARKING GUIDELINES