



# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NASIONALE SENIOR SERTIFIKAAT**

**GRAAD 12**

**INGENIEURSGRAFIKA EN -ONTWERP V2**

**FEBRUARIE/MAART 2012**

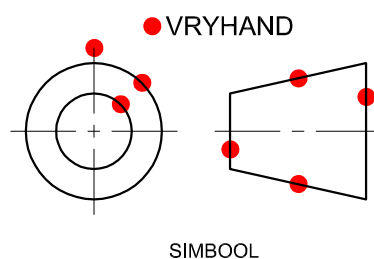
**MEMORANDUM**

**PUNTE: 100**

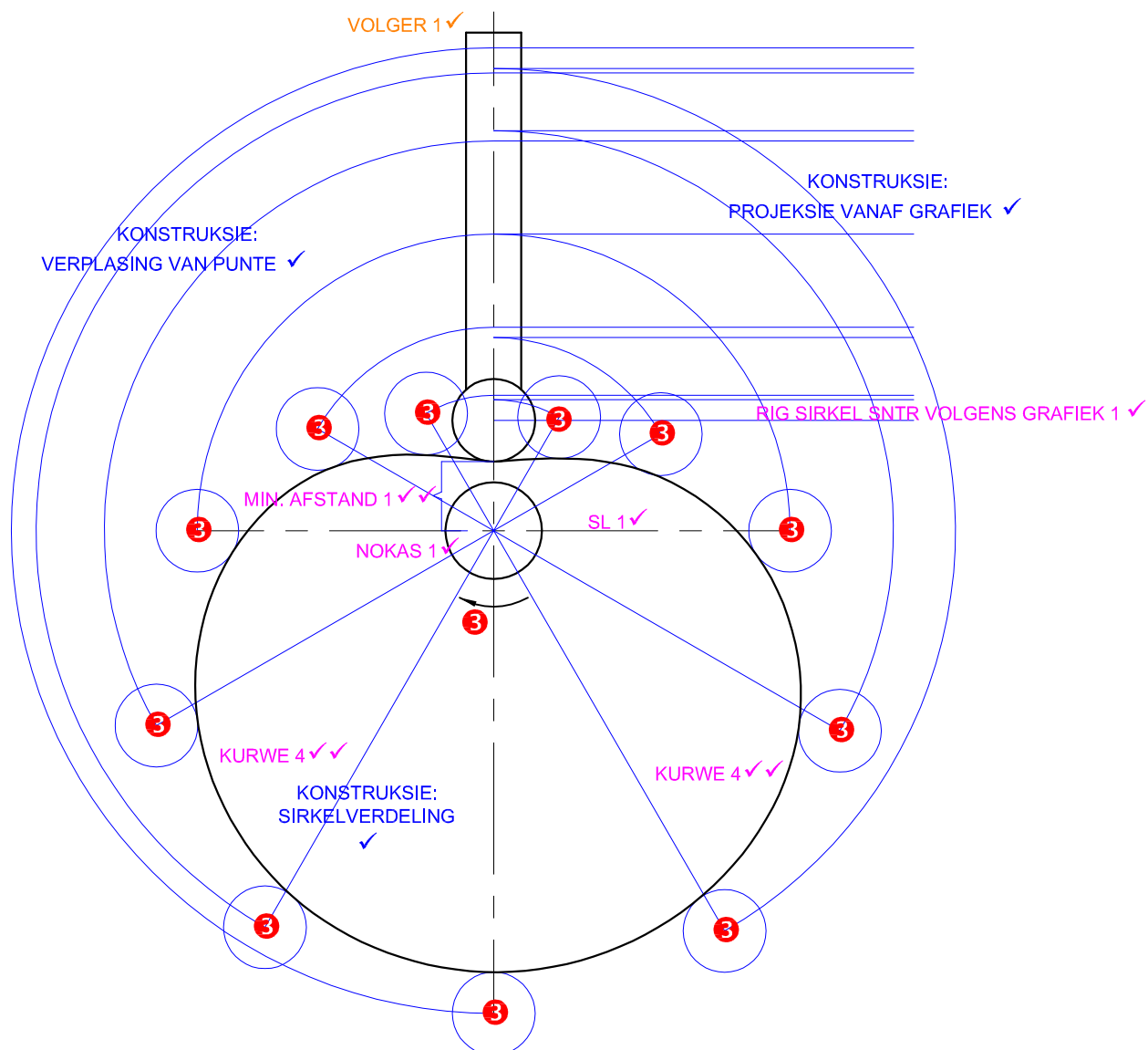
**Hierdie memorandum bestaan uit 6 bladsye.**

ANTWOORDE		
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	7	1
	4	1
	8	1
	1	1
	5	1
	3	1
2	2011/06/01	1
3	www.weldtech.co.za	1
4	CHROOMPLATEER	1
5	PM 12 - PSC - 347	1
6	5 mm	1
7	26	1
8	DEURSNEE-BOAANSIG	1
9	LINKERAANSIG	1
10	M10	1
11	A - Ø20      B - 80      C - 22°	3
12	2000	1
13	16	2
14	'S'-BREEK	1
15	TOTALE LENGTE VAN KENMERK (BEPERKTE RUIMTE)	1
16	29.5 & 30.5	2
17		4
TOTAAL		30

## ANTWOORD 17

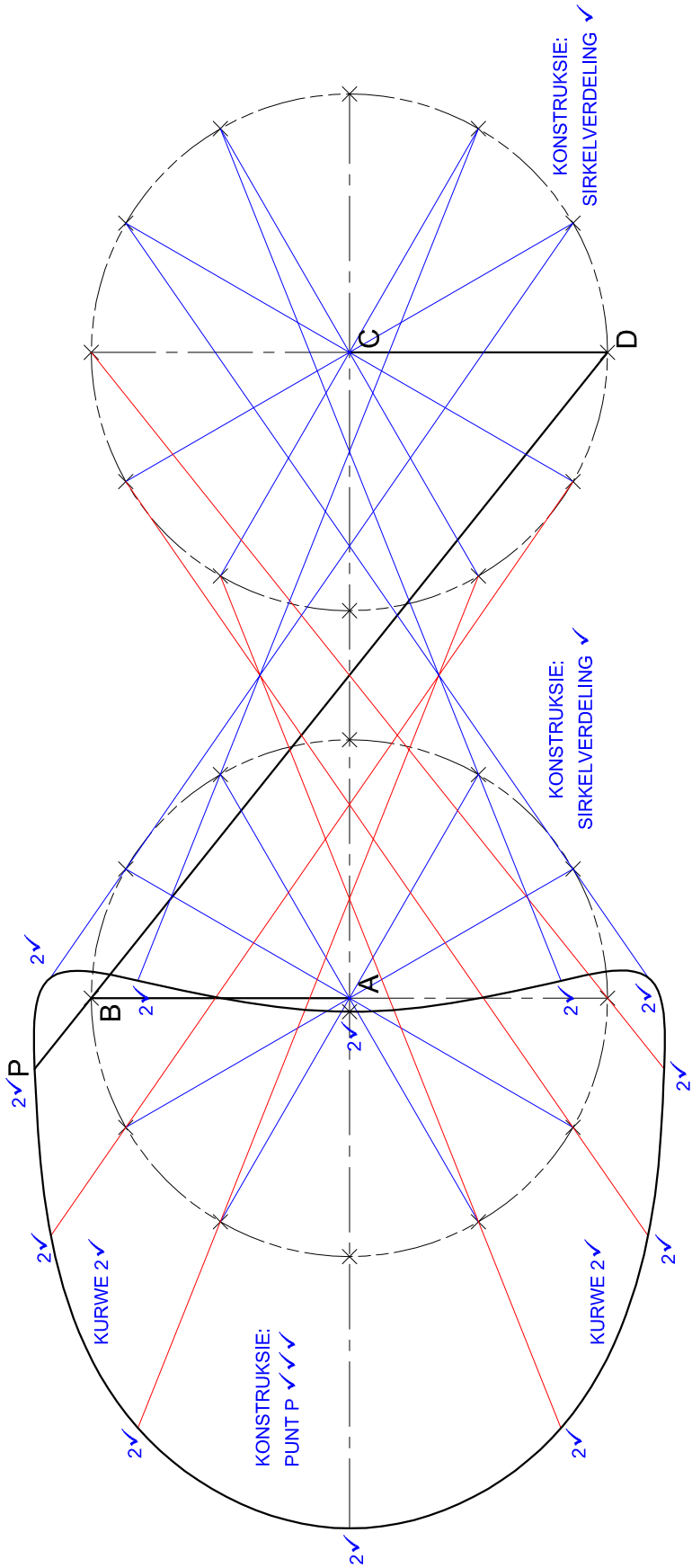


VRAESTEL 2 VRAAG 1  
 GRAAD 12  
 Feb.-Mrt. 2012  
 MEMORANDUM

**ASSESSERINGSKRITERIA**

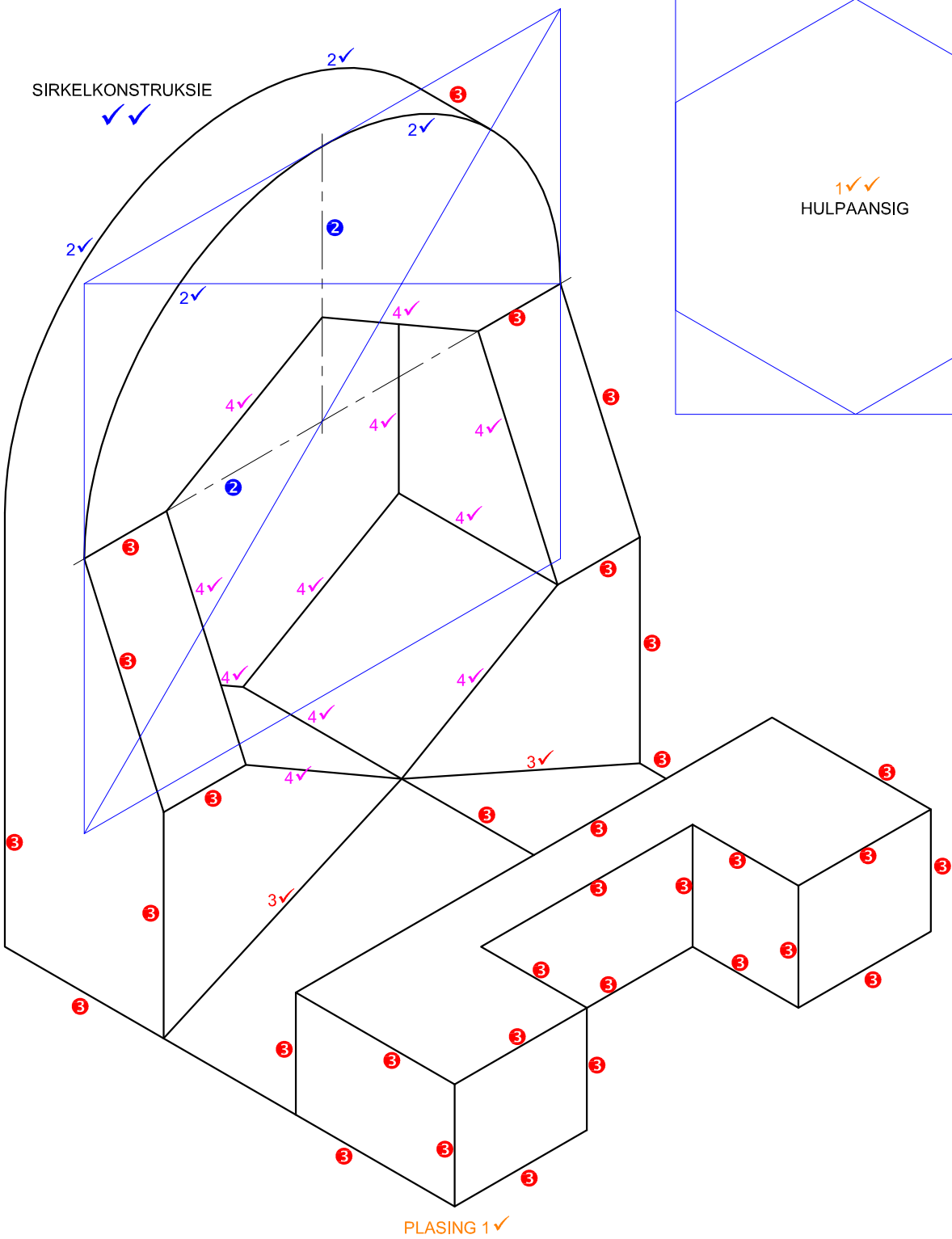
1. VOLGER + MIN. AFSTAND + SENTERLYN + NOKAS	6
2. KONSTRUKSIE	3
3. UITSTIPPING + RIGTING	6
4. KURWE	4
<b>2.1 SUBTOTAAL</b>	<b>19</b>

VRAESTEL 2 VRAAG 2.1  
 GRAAD 12  
 Feb.-Mrt. 2012  
 MEMORANDUM



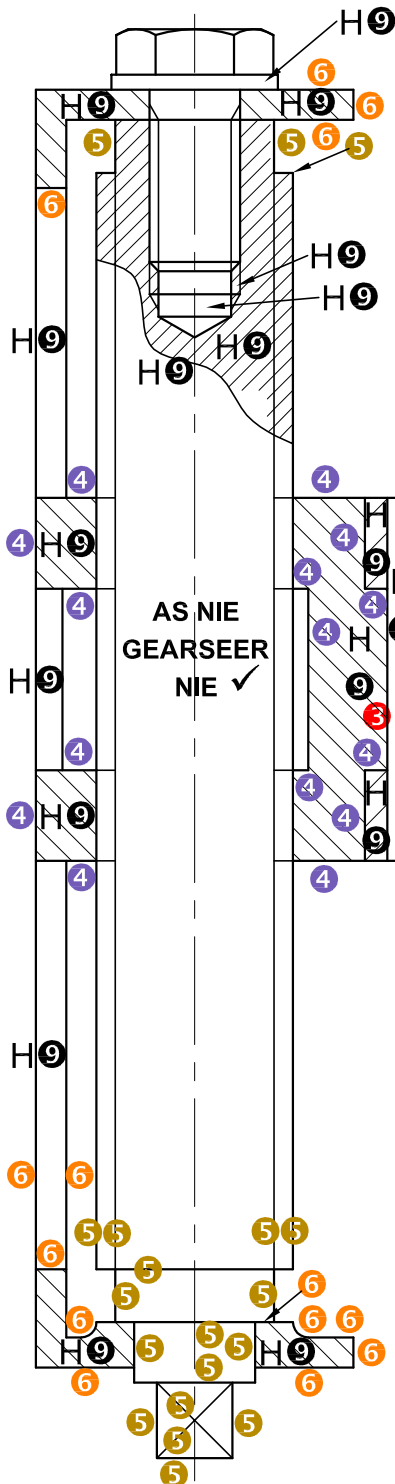
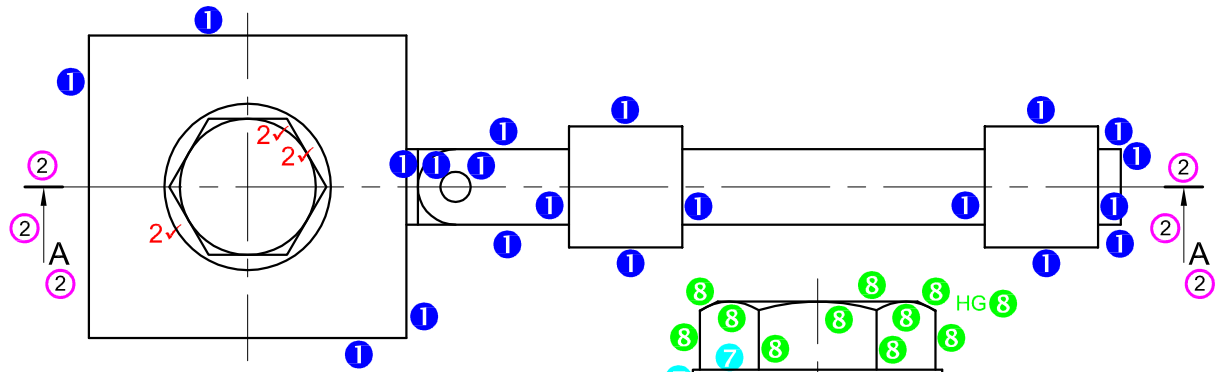
ASSESSERINGSKRITERIA		
1. KONSTRUKSIES	5	
2. LOKUS VAN P	14	
2.2 SUBTOTAAL	19	

VRAESTEL 2 VRAAG 2.2  
 GRAAD 12  
 Feb.-Mrt. 2012  
 MEMORANDUM

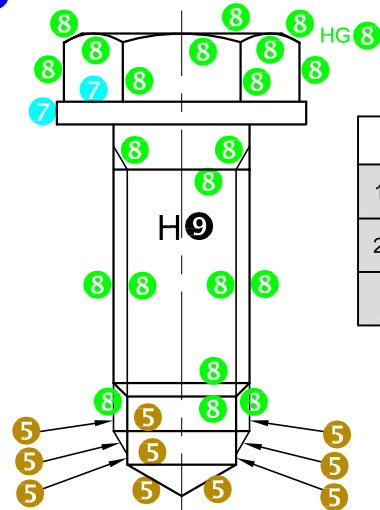


ASSESSERINGSKRITERIA	
1. HULPAANSIG + PLASING + SIRKELKONSTRUKSIE	5
2. ISO'-SIRKELS + SENTERLYNE	5
3. ISO + NIE-ISO'-LYNE	18
4. SESKANT	11
TOTAAL	39

VRAESTEL 2 VRAAG 3  
GRAAD 12  
Feb.-Mrt. 2012  
MEMORANDUM

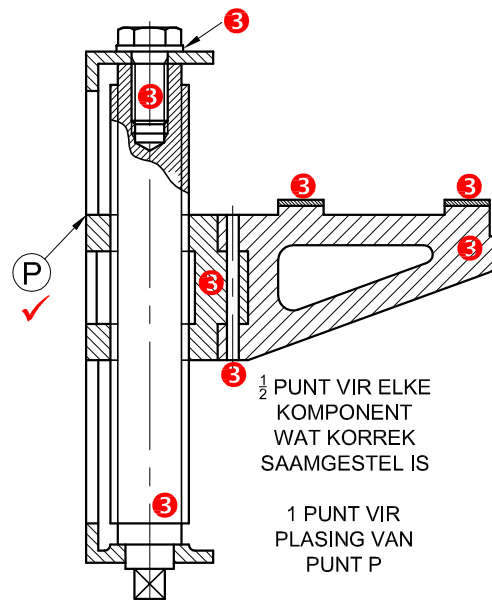


SNIT A-A ✓

**BOAANSIG**

1	BUITELYN	10
2	BOUT + WASTER	3
<b>SUBTOTAAL</b>		<b>13</b>

BOUT-DETAIL

**DEURSNEE VOORAANSIG**

1	KUSSING	3
2	DOMKRAGARM	11
3	PEN	1
4	DOMKRAG	7½
5	AS	14½
6	STEUNSTUK	7
7	WASTER	1
8	BOUT	11
9	ARSERING	13
<b>SUBTOTAAL</b>		<b>69</b>

**ALGEMEEN**

1	SETERLYNE	2
2	SNYVLAK + TITEL	4
3	SAMESTELLING	5
<b>SUBTOTAAL</b>		<b>11</b>
<b>TOTAAL</b>		<b>93</b>

VRAESTEL 2 VRAAG 4  
GRAAD 12  
Feb.-Mrt. 2012  
MEMORANDUM



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## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**ENGINEERING GRAPHICS AND DESIGN P2**

**FEBRUARY/MARCH 2012**

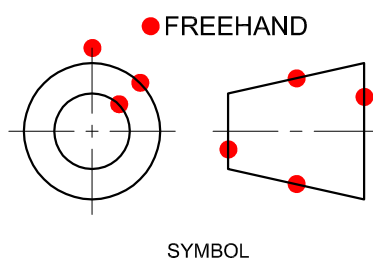
**MEMORANDUM**

**MARKS: 100**

**This memorandum consists of 6 pages.**

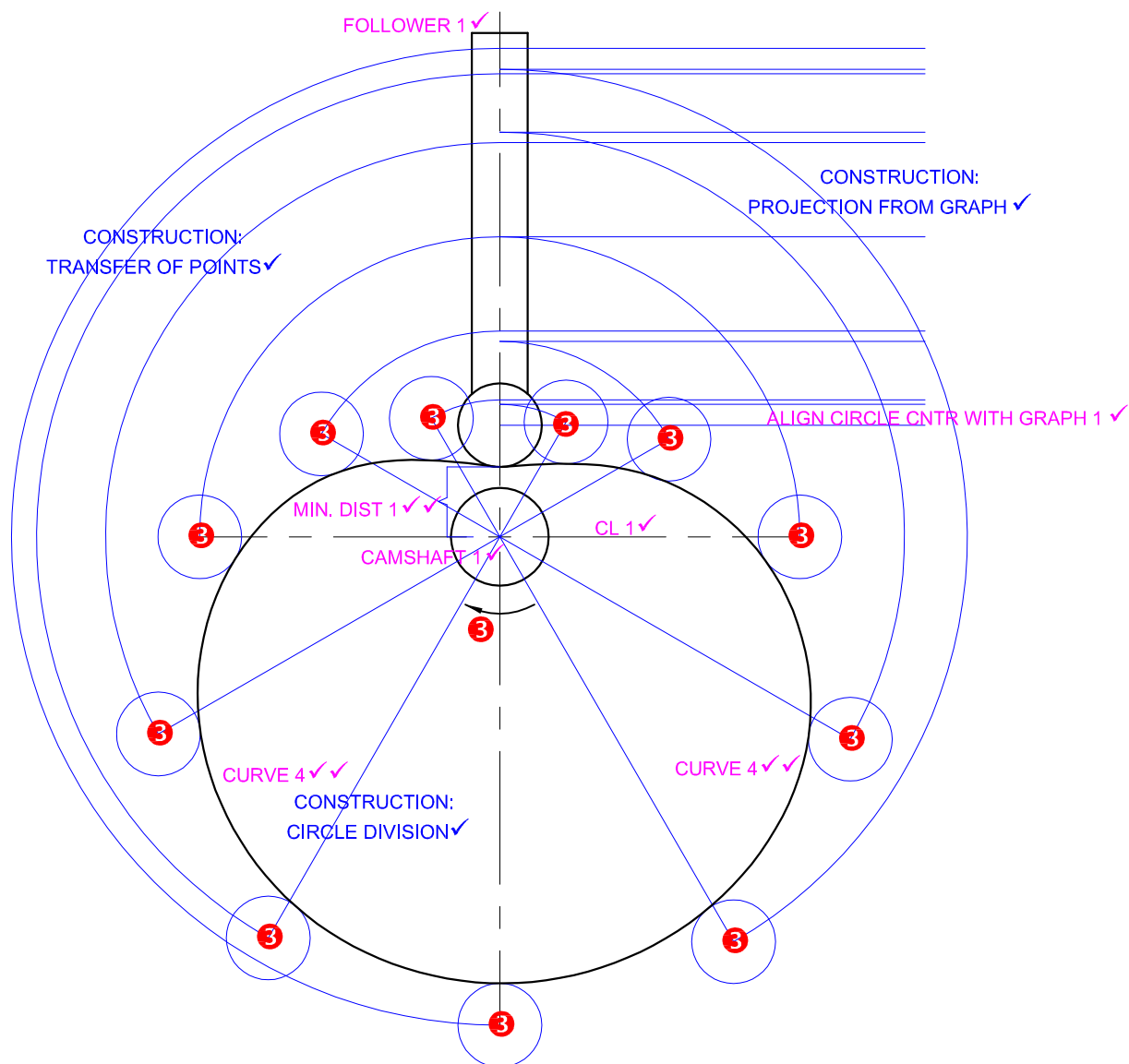
ANSWERS		
1	6	1
	7	1
	4	1
	8	1
	1	1
	5	1
	3	1
2	2011/06/01	1
3	www.weldtech.co.za	1
4	CHROME PLATED	1
5	PM 12 - PSC - 347	1
6	5 mm	1
7	26	1
8	SECTIONAL TOP VIEW	1
9	LEFT VIEW	1
10	M10	1
11	A - Ø20      B - 80      C - 22°	3
12	2000	1
13	16	2
14	'S' BREAK	1
15	TOTAL LENGTH OF FEATURE (LIMITED SPACE)	1
16	29.5 & 30.5	2
17		4
TOTAL		30

## ANSWER 17



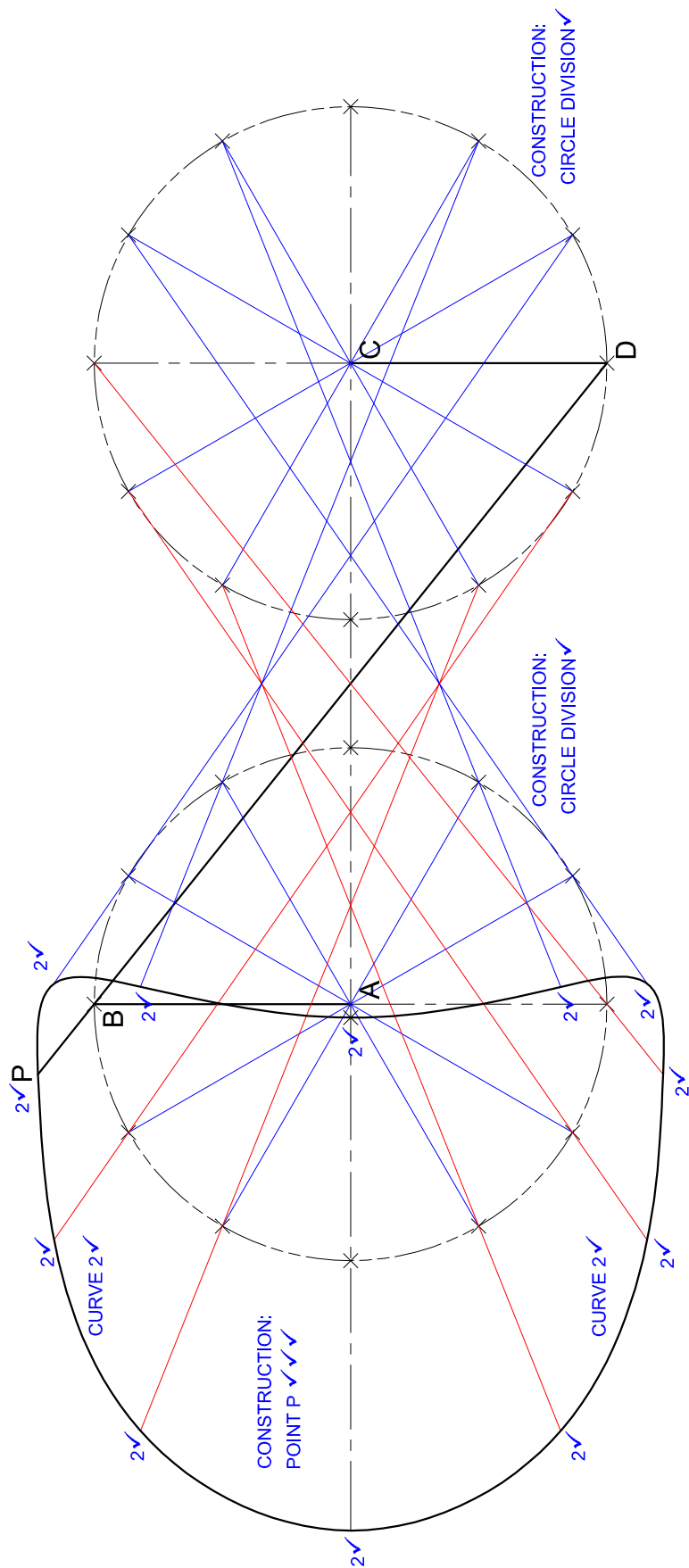
PAPER 2 QUESTION 1  
 GRADE 12  
 Feb.-Mar. 2012  
 MEMORANDUM



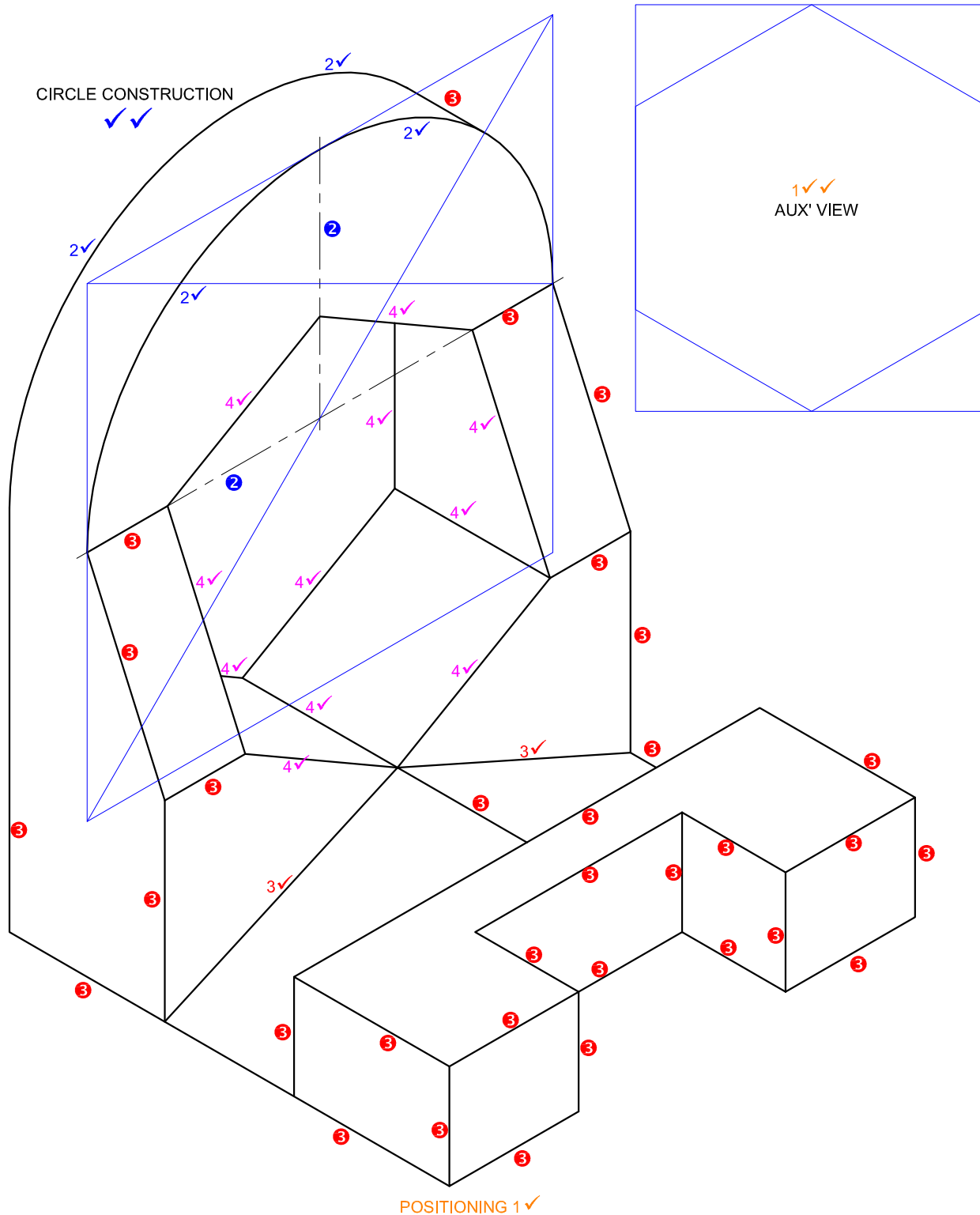
**ASSESSMENT CRITERIA**

1. FOLLOWER + MIN. DIST + CENTRE LINE + CAMSHAFT	6
2. CONSTRUCTION	3
3. PLOTTING + DIRECTION	6
4. CURVE	4
<b>2.1 SUBTOTAL</b>	<b>19</b>

PAPER 2 QUESTION 2.1  
 GRADE 12  
 Feb.-Mar. 2012  
 MEMORANDUM

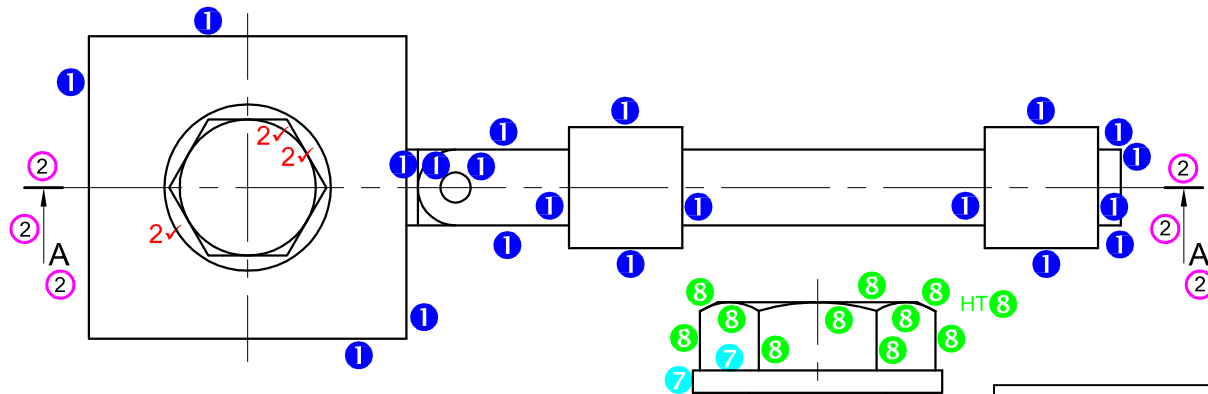


ASSESSMENT CRITERIA	
1. CONSTRUCTION	5
2. LOCUS OF P	14
2.2 SUBTOTAL	19

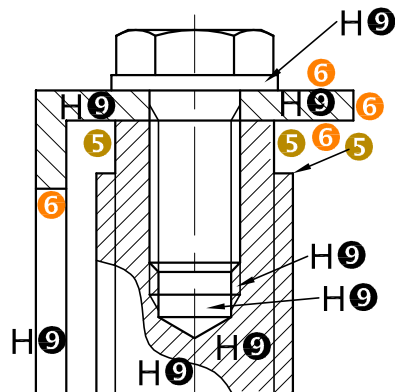
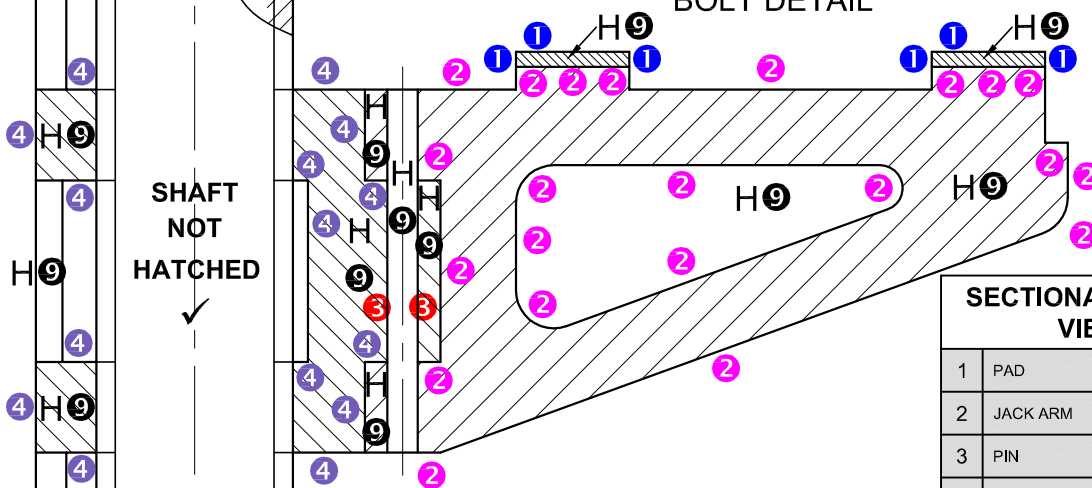


ASSESSMENT CRITERIA	
1. AUXILIARY VIEW + PLACEMENT + CIRCLE CONSTRUCTION	5
2. ISO' CIRCLES + CENTRE LINES	5
3. ISO + NON-ISO' LINES	18
4. HEXAGON	11
<b>TOTAL</b>	<b>39</b>

PAPER 2 QUESTION 3  
GRADE 12  
Feb.-Mar. 2012  
MEMORANDUM

**TOP VIEW**

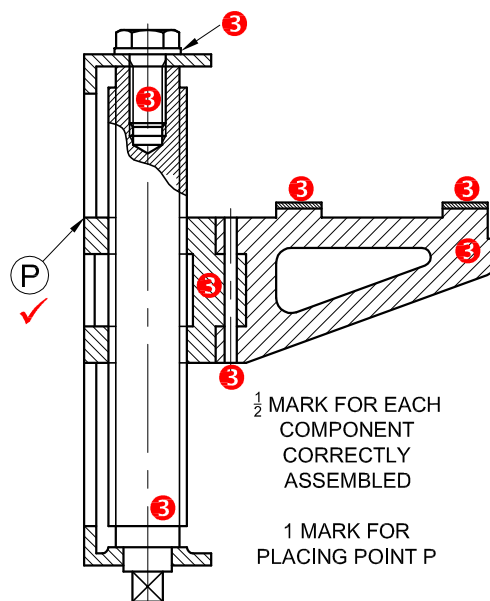
1	OUTLINE	10
2	BOLT + WASHER	3
<b>SUBTOTAL</b>		<b>13</b>

**BOLT DETAIL****SECTIONAL FRONT VIEW**

1	PAD	3
2	JACK ARM	11
3	PIN	1
4	JACK	7½
5	SHAFT	14½
6	BRACKET	7
7	WASHER	1
8	BOLT	11
9	HATCHING	13
<b>SUBTOTAL</b>		<b>69</b>

**GENERAL**

1	CENTRE LINES	2
2	CUTTING PLANE + TITLE	4
3	ASSEMBLY	5
<b>SUBTOTAL</b>		<b>11</b>
<b>TOTAL</b>		<b>93</b>

**SECTION A-A** ✓

½ MARK FOR EACH COMPONENT CORRECTLY ASSEMBLED

1 MARK FOR PLACING POINT P

PAPER 2 QUESTION 4  
GRADE 12  
Feb.-Mar. 2012  
MEMORANDUM