

KRAM



**education**  
 Department of  
 Education  
 FREE STATE PROVINCE

**PROVINSIALE VRAESTEL  
 PROVINCIAL PAPER**

**GRAAD 10  
 GRADE 10**

**INGENIEURSGRAFIKA EN -ONTWERP  
 ENGINEERING GRAPHICS AND DESIGN**

**JUNIE 2018 / JUNE 2018**

PUNTE / MARKS: 100  
 TYD: 3 UUR / TIME: 3 HOURS

Hierdie vraestel bestaan uit 9 bladsye. / This paper consists of 9 pages.

**INSTRUKSIES EN INLIGTING**

1. Hierdie vraestel bestaan uit VIER vrae
2. Beantwoord al die vrae.
3. ALLE tekeninge is in derdehoekse ortografiese projeksie, tensy anders aangedui.
4. ALLE tekeninge moet volgens skaal 1:1 geteken word, tensy anders aangedui.
5. AL die vrae moet, soos voorgeskryf, op die DIAGRAMVELLE beantwoord word.
6. AL die bladsye moet weer in nommervolgorde vasgekram word, ongeag of die vraag beantwoord is, of nie.
7. Tydsbeplanning is noodsaaklik om al die vrae te voltooi.
8. Drukskryf jou naam en van asook die graad in die spasie wat voorsien is op elke bladsy.
9. ALLE antwoorde moet akkuraat en netjies geteken word.
10. ALLE nodige konstruksie- en projeksielyne moet getoon word.
11. Beplan elke tekening noukeurig vanaf die beginposisie wat op die diagramvelle aangedui is.
12. Enige besonderhede of afmetings wat nie gegee is nie, moet in goeie verhouding beraam word.

**INSTRUCTIONS AND INFORMATION**

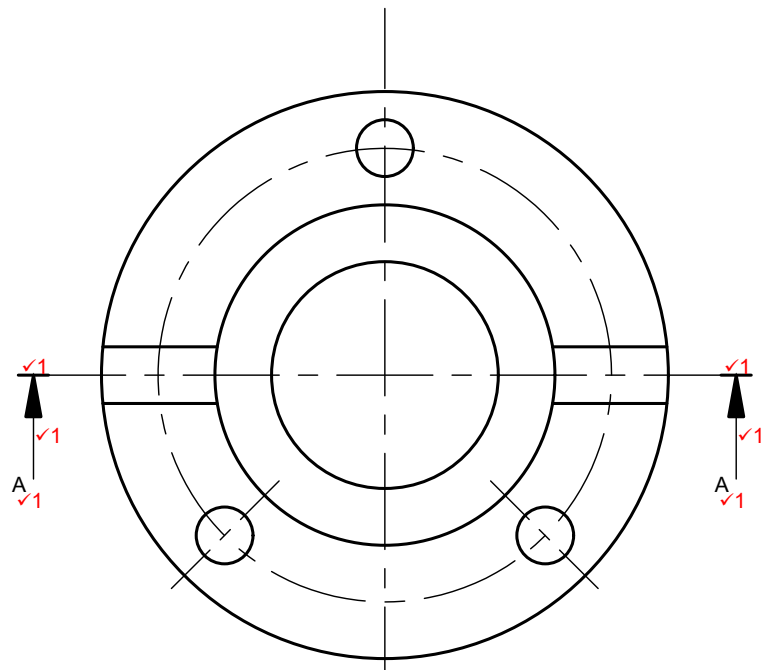
1. This question paper consist of FOUR questions.
2. Answer ALL the questions.
3. ALL drawings are in third-angle orthographic projection, unless stated otherwise.
4. ALL drawings must be drawn to scale 1:1, unless stated otherwise.
5. ALL questions must be answered on the DIAGRAM SHEETS, as instructed.
6. ALL the pages must be restapled in numerical sequence, irrespective of whether the question was attempted or not.
7. Time management is essential in order to complete all the questions.
8. Print your name and surname as well as the grade in the space provided on each page.
9. ALL answers must be drawn accurately and neatly.
10. ALL necessary construction and projection lines must be shown.
11. Plan each drawing carefully from the given position, which is indicated on the diagram sheets.
12. Any details or dimensions not given must be assumed in good proportion.

SLEGS VIR AMPTELIKE GEBRUIK/ FOR OFFICIAL USE ONLY								
VRAAG/ QUESTION	PUNTE BEHAAL/ MARKS OBTAINED			½	GEMODEREER/ MODERATED			½
1								
2								
3								
4								
TOTAAL/ TOTAL								
	1	7	5		1	7	5	

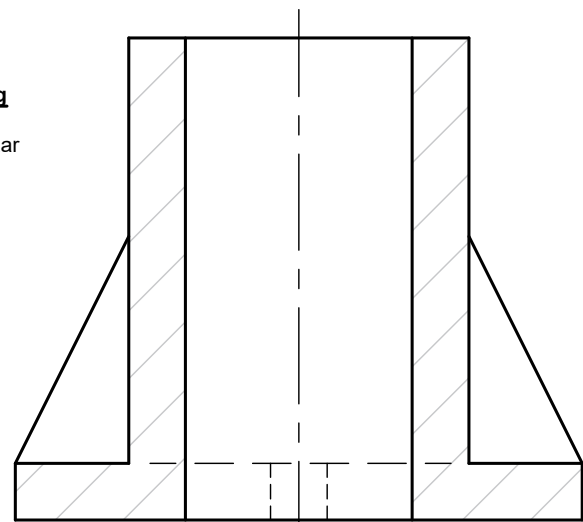
FINALE VERWERKTE PUNT/ FINAL CONVERTED MARK	NAGESIEN DEUR/ CHECKED BY
100	

NAAM & VAN NAME & SURNAME	<b>MEMORANDUM</b>	GRAAD/ GRADE	<b>10</b>	<b>1</b>
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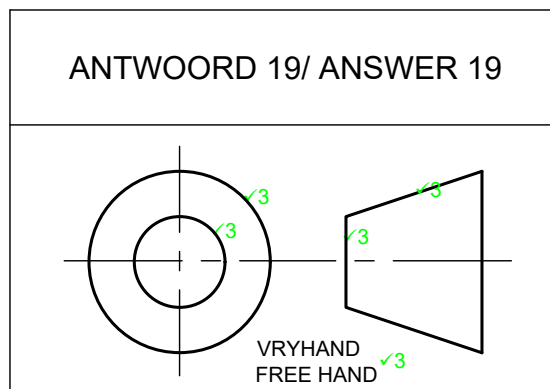
AANSIG 1 / VIEW 1



AANSIG 2 / VIEW 2

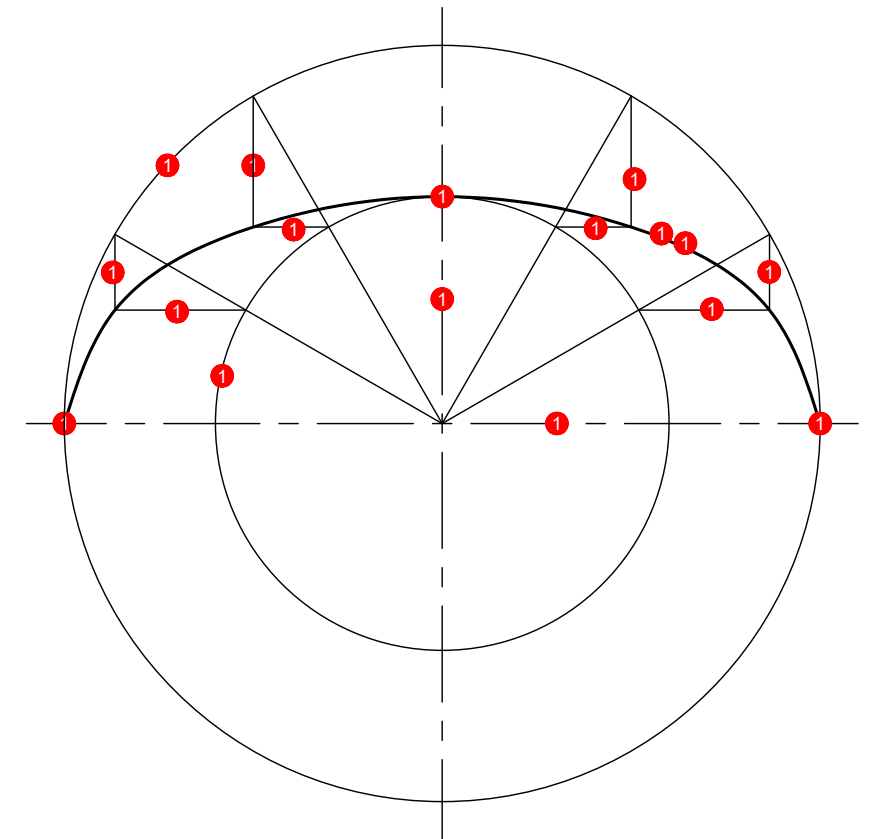
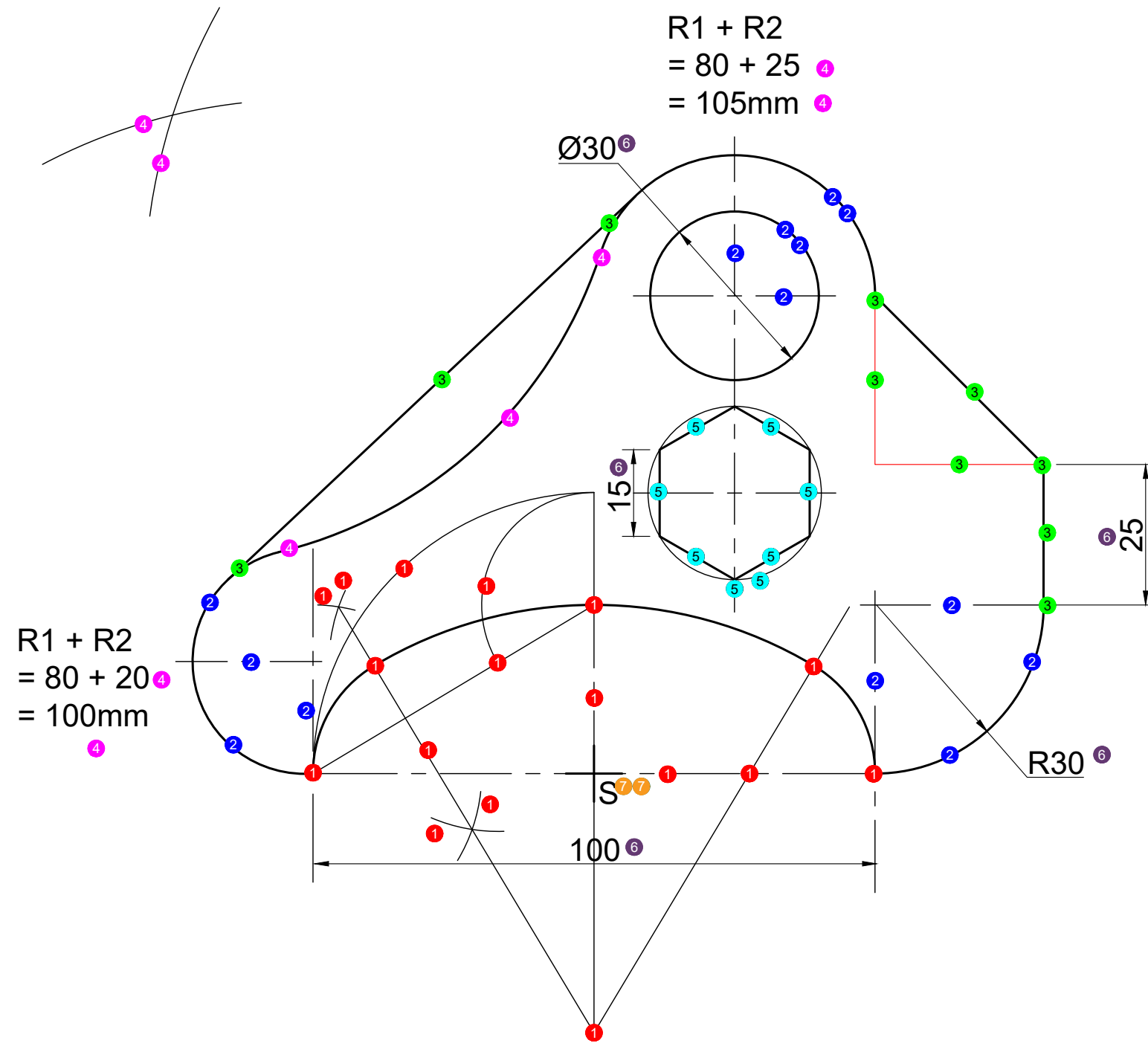
- Arsering / Hatching**
- ✓2 Lines 5 mm apart.
  - ✓2 Lyne 5 mm uit mekaar
  - ✓2 @ 45°
  - ✓2 B-lynkwaliteit
  - ✓2 B-line quality
  - ✓2 Netheid
  - ✓2 Neatness

ANTWOORD 19/ ANSWER 19

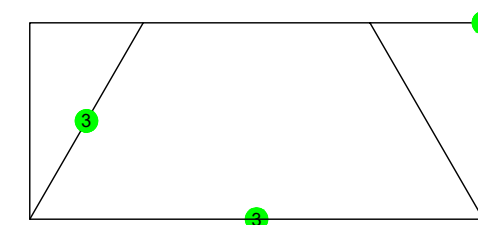
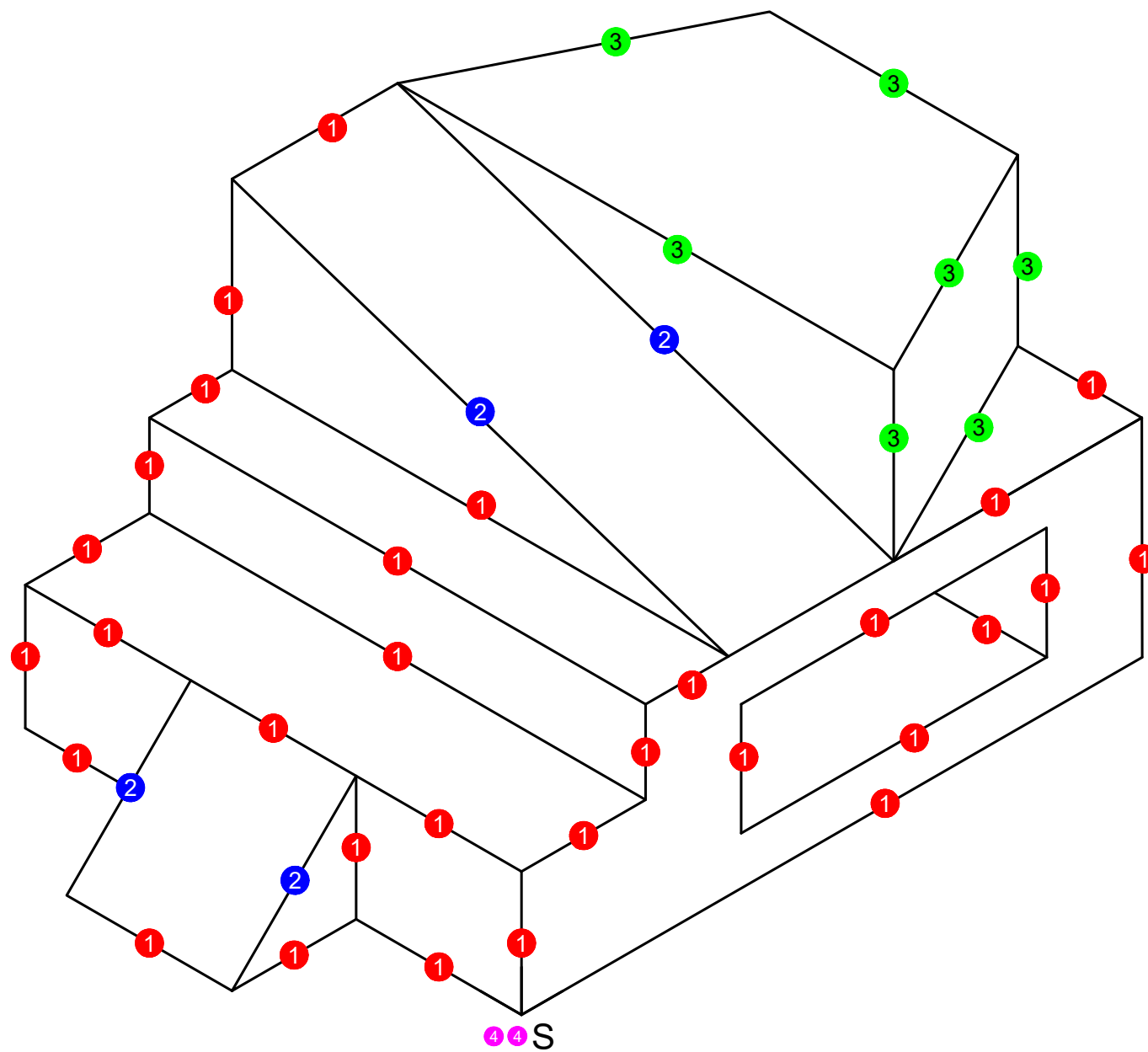


VRAE / QUESTIONS		ANTWOORDE / ANSWERS		
1	Wat is die titel van die tekening? What is the title of the drawing?	ASONDERSTEUNDER SHAFT SUPPORTER	1	
2	Wat is die skaal van die tekening? What is the scale of the drawing?	SKAAL 1:1 SCALE 1:1	1	
3	Wat is die naam van die vervaardigingsmaatskappy? What is die name of the manufacturing firm?	P&C STAALWERKE P&C STEELWORKS	1	
4	Hoeveel eenhede moet vervaardig word? How many units must be manufactured?	50 EENHEDE 50UNITS	1	
5	Wie het die tekening goedgekeur? Who approved the drawing?	IZAK	1	
6	Wat was die rede vir hersiening? What was the reason for revision?	ARSEERING BESONDERHEDE HACHTING DETAIL	1	
7	Watter soort behandeling moet die onderdeel ondergaan? What tipe of treatment must be done on the unit?	VERHARDING HARDENING	1	
8	Watter materiaal word gebruik om die onderdeel te vervaardig? Which material is used to manufacture the unit?	GIETYSER CAST IRON	1	
9	Watter tekenmetode is gebruik? Which drawing method has been used?	ROT CAD	1	
10	Watter afmetingseenheid word gebruik in die tekening? Which measuring unit is used in the drawing?	MILLIMETERS/mm	1	
11	Benoem aansig 1. Name view 1.	BO-AANSIG TOP VIEW	1	
12	Benoem die lyntipe by 1 (sien diagramvel 1). Name the line type at 1 (see diagram sheet 1).	SENTERLYN CENTER LINE	1	
13	Benoem die lynkwaliteit van die lyn genommer 2 (sien diagramvel 1). Name the line quality of the line numbered 2 (see diagram sheet 1).	B KWALITEIT B QUALITY	1	
14	Benoem die verskynsel by 3 (sien diagramvel 1). Name the phenomenon at 3 (see diagram sheet 1).	RIB	1	
15	Benoem die diameter van die gat vir die as. Let wel: Die as is nie getoon nie. Name the diameter for the hole of the shaft. Note: The shaft is not shown.	Ø 33	2	
16	Bepaal die volgende afmetings by... Determine the following dimensions at...	A: Ø100 B: Ø50 C: 90° D: Ø10	4	
17	Op diagramvel 2, teken die snitlyn A-A indien aansig 2 deur die senter van die ondersteuner gesny moet word. On diagram sheet 2, draw in the section line A-A should view 2 be sectioned through the center of the shaft supporter.		3	
18	Op diagramvel 2, toon alle arseringslyne van die snit op aansig 2. On diagram sheet 2, draw all the hatching lines of the sectioned part on view 2.		4	
19	Teken, in netjiese vryhand, die projeksiesimbool in die gegewe spasie. Draw, in neat free hand, the projection system symbol in the given space.		5	
20	TOTAAL /TOTAL		32	

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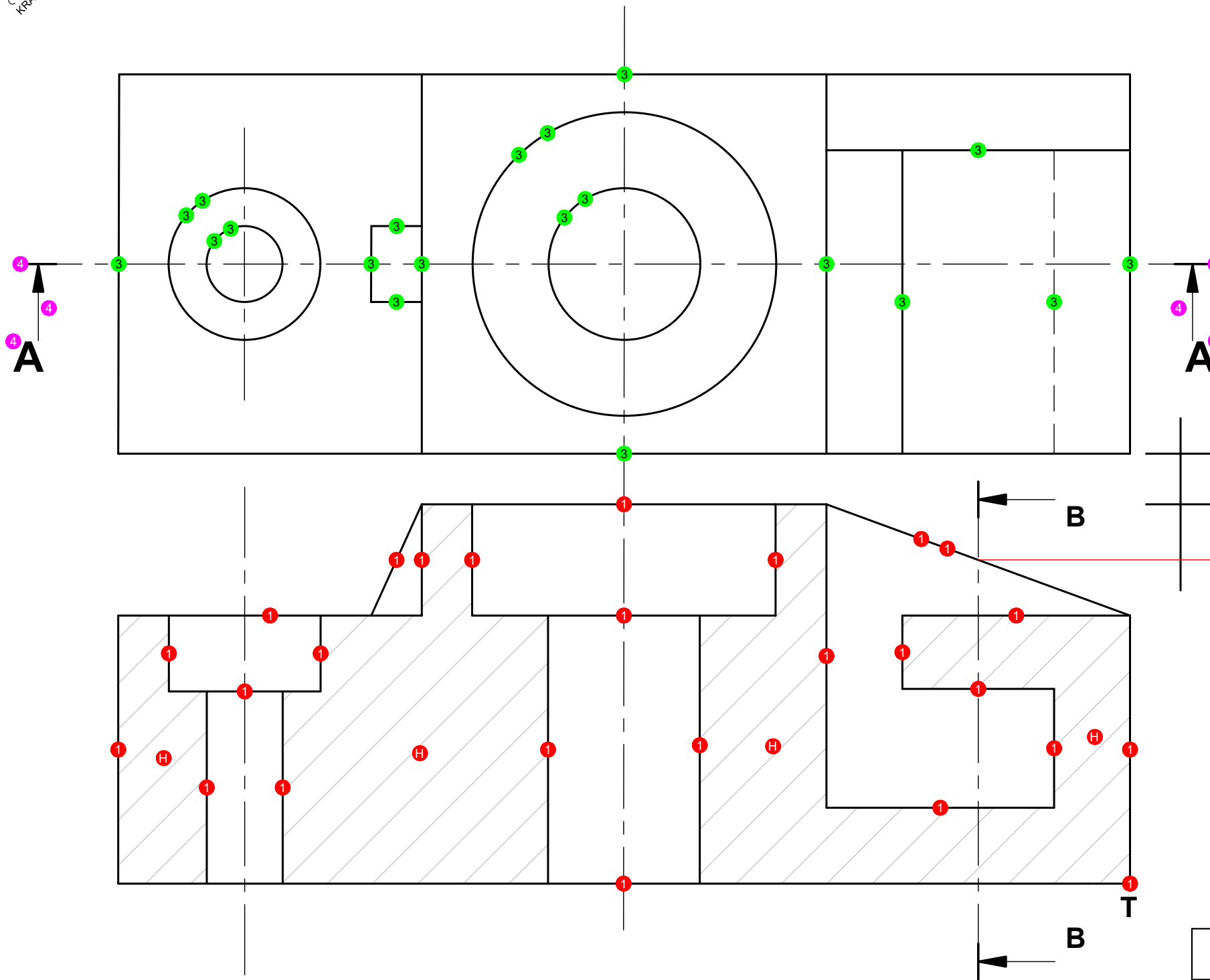


ASSESSERINGSKRITERIA ASSESSMENT CRITERIA			Punte Marks	Mod.
1	ELLIPS	1	17	
2	SIRKELS / CIRCLES (14/2)	2	7	
3	LYNE / LINES	3	10	
4	RAAKBOOG / TANGENT ARC	4	9	
5	SESKANT / HEXAGON	5	8	
6	MAATSKRYWINGS DIMENSIONING	6	5	
7	PLASING / PLACING	7	2	
TOTAAL / TOTAL			58	



ASSESSERINGSKRITERIA / ASSESSMENT CRITERIA			Punt Mark	Mod.
1	ISOMETRIESE LYNE / ISOMETRIC LINES	1	30	
2	NIE-ISOMETRIESE LYNE / NON ISOMETRIC LINES	2	4	
3	SESKANT & HULPAANSIG / HEXAGON AND AUXILIARY VIEW	3	10	
4	PLASING / PLACEMENT	4	1	
TOTAAL / TOTAL			45	

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TITEL & SKAAL / TITLE & SCALE	
GIETSTUK / CASTING	5 5
SKAAL / SCALE 1:1	5 5
PROJEKSIESIMBOOL / PROJECTION SYMBOL	

ASSESSERINGSKRITERIA / ASSESSMENT CRITERIA		Punt Mark	Mod.
1	DEURSNEE-VOORAANSIG / SECTION FRONT VIEW ( $\frac{30}{2}$ )	1	15
2	DEURSNEE-REGTERAANSIG / SECTION RIGHT VIEW ( $\frac{14}{2}$ )	2	7
3	BOAANSIG / TOP VIEW ( $\frac{20}{2}$ )	3	10
4	SNITLYN AA / SECTION LINE AA ( $\frac{6}{2}$ )	4	3
5	TITEL & SKAAL / TITLE & SCALE ( $\frac{4}{2}$ )	5	2
6	SIMBOOL / SYMBOL ( $\frac{6}{2}$ )	6	3
<b>TOTAL / TOTAAL</b>			40