

GAUTENG DEPARTMENT OF EDUCATION  
*GAUTENGSE DEPARTEMENT VAN ONDERWYS*



SENIOR CERTIFICATE EXAMINATION  
*SENIORSERTIFIKAAT-EKSAMEN*

OCTOBER / NOVEMBER  
*OKTOBER / NOVEMBER*

2006

TECHNICAL DRAWING  
*TEGNIESE TEKENE*

(Second Paper : Drawing Book)  
*(Tweede Vraestel : Tekeneboek)*

SG

711-2/2

Cover + 6 pages  
*Voorblad + 6 bladsye*



**GAUTENG DEPARTMENT OF EDUCATION  
GAUTENG DEPARTEMENT VAN ONDERWYS**

**EXAMINATION NUMBER / EKSAMENNUMMER**

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**SENIOR CERTIFICATE EXAMINATION  
SENIORSERTIFIKAAT-EKSAMEN**

**TECHNICAL DRAWING SG  
TEGNIESE TEKENE SG**

SECOND PAPER / TWEDE VRAESTEL  
DRAWING BOOK / TEKENEBOEK

TIME: 3 Hours / TYD: 3 Ure  
MARKS: 150 / PUNTE: 150

711-2/2 U

**REQUIREMENTS:**

- Drawing equipment

**INSTRUCTIONS:**

- Answer ALL questions on the answer sheets provided.
- Write your examination number on EACH answer sheet.
- Approximate any dimensions not given.
- At the end of the session, all answer sheets must be stapled together at the TOP LEFT-HAND corner in the correct sequence.
- All unused answer sheets must be handed in.

**BENODIGHEDE:**

- Tekeninstrumente

**INSTRUKSIES:**

- Beantwoord ALLE vrae op die gegewe antwoordvelle.
- Skryf jou eksamennummer op ELKE antwoordvel.
- Benader enige afmetings wat nie gegee is nie.
- Aan die einde van die sessie moet AL die antwoordvelle in die korrekte numeriese volgorde in die BOONSTE LINKERKANTSTE hoek vasgekram word.
- Alle ongebruikte antwoordvelle moet ingehandig word.

6 PAGES / 6 BLADSYE



QUESTION VRAAG	MARKS PUNTE	INITIAL PARAFEER
1.		
2.		
3.		
4.		
TOTAL TOTAAL		
CONTROLLER KONTROLEERDER		

**QUESTION 1**

The given figure shows an isometric view of a casting. Draw to a scale of 1:1 and in third-angle orthographic projection the following views of the casting:

- 1.1 A front view as seen in the direction of the arrow
- 1.2 A left view
- 1.3 A top view
- 1.4 Indicate the projection symbol representing third-angle orthographic projection in the space provided.

ALL hidden detail must be shown.  
No dimensions are required.

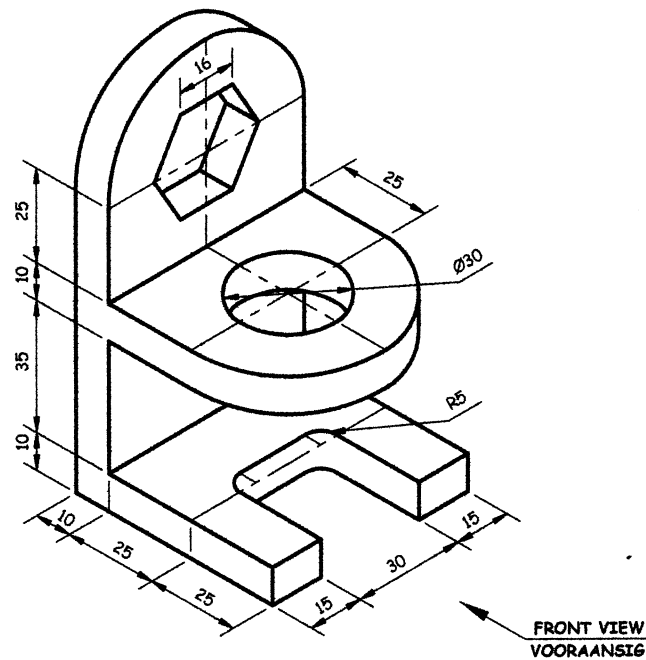
**VRAAG 1**

Die gegewe figuur toon 'n isometriese aansig van 'n gietstuk. Teken volgens 'n skaal van 1:1 en in derdehoekse ortografiese projeksie die volgende aansigte van die gietstuk:

- 1.1 'n Vooraansig vanuit die rigting wat deur die pyl aangedui word
- 1.2 'n Linkeraansig
- 1.3 'n Boaansig
- 1.4 Toon die projeksiesimbool vir derdehoekse ortografiese projeksie in die ruimte wat daarvoor voorsien word.

ALLE verborge detail moet getoon word.  
Geen afmetings word vereis nie.

Placing Plasing	-3		
Presentation Aanbieding	-2		
Front view Vooraansig	9		
Top view Bo-aansig	7		
Left view Linkeraansig	7		
Symbol Simbool	2		
<b>TOTAL TOTAAL</b>	<b>25</b>		



SYMBOL / SIMBOOL

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ANSWER SHEET 1  
ANTWOORDVEL 1

**QUESTION 2**

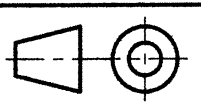
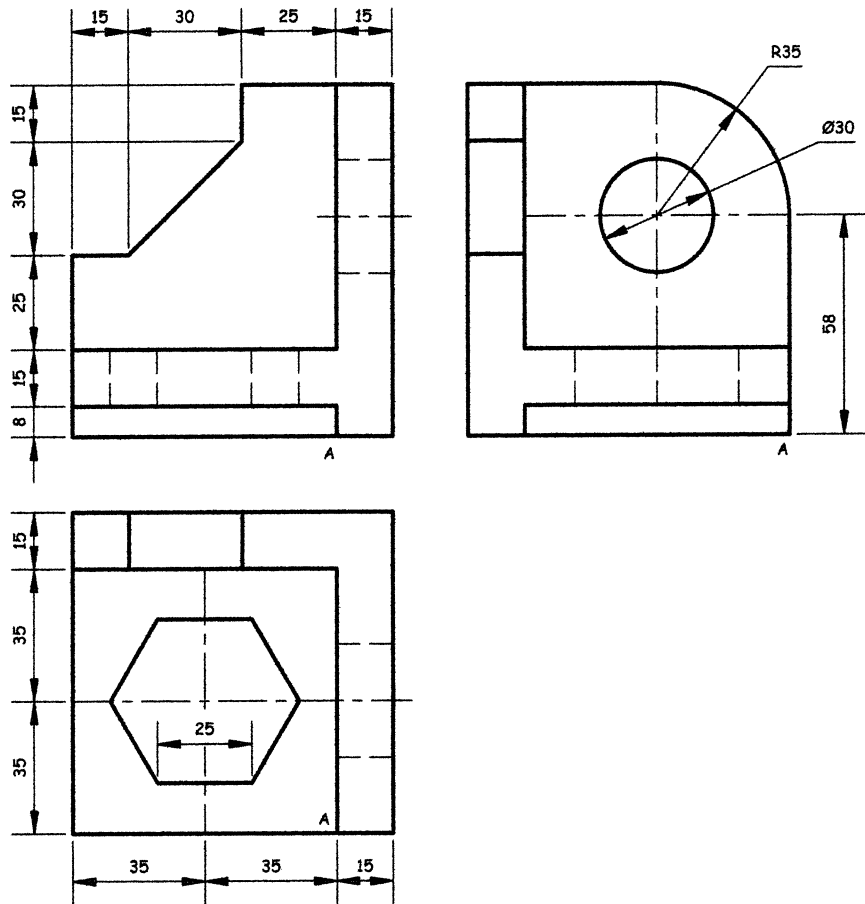
The given figure shows three views of a casting in first-angle orthographic projection. Draw to a scale of 1:1 a neat isometric view of the casting.

Use point A to start the drawing.

**VRAAG 2**

Die gegewe figuur toon drie aansigte van 'n gietstuk in eerstehoekse ortografiese projeksie. Teken volgens 'n skaal van 1:1 'n netjiese isometriese aansig van die gietstuk.

Gebruik punt A as beginpunt.



Frontal plane Voorste vlak	8		
Top plane Boonste vlak	8		
Left plane Linkervlak	9		
Linework Lynwerk	-3		
<b>TOTAL TOTAAL</b>	<b>25</b>		

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ANSWER SHEET 2  
ANTWOORDVEL 2

**QUESTION 3**

Three views of a dwelling that has been developed as part of a project of 100 low-cost houses in Mamelodi, Tswane-East, are shown. Draw a neat, two-point perspective view of the dwelling.

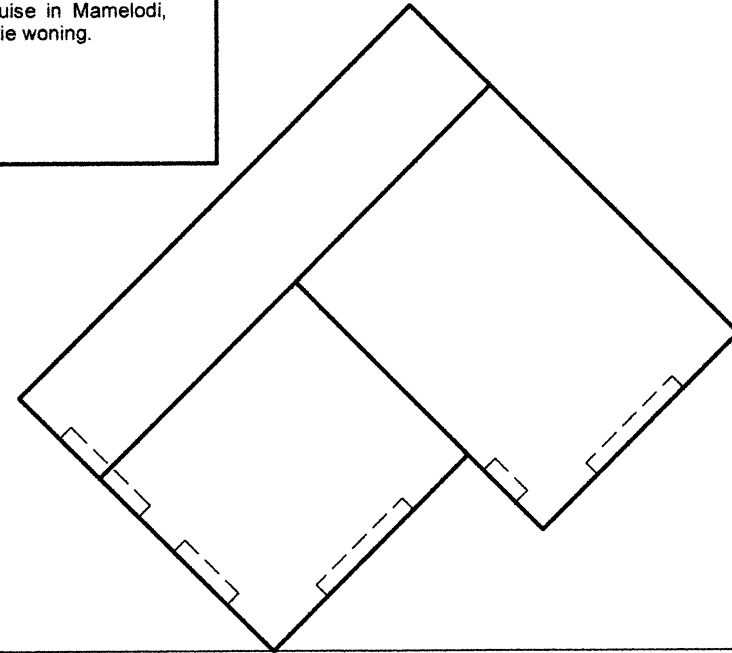
Ignore wall thickness.  
No hidden detail is required.

**VRAAG 3**

Drie aansigte van 'n woning wat deel is van 'n projek van 100 laekoste-huise in Mamelodi, Tswane-Oos, word getoon. Teken 'n netjiese tweepuntperspektief-aansig van die woning.

Ignoreer muur diktes.  
Geen verborge detail hoef getoon te word nie.

Perspective view Perspektief-aansig	20		
Vanishing points Verdwynpunte	2		
Presentation Aanbieding	3		
<b>TOTAL TOTAAL</b>	<b>25</b>		

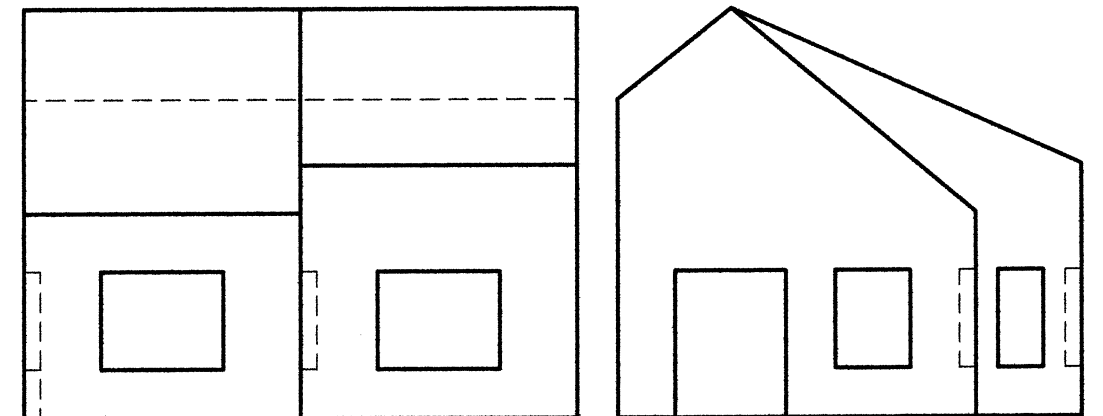


PP/PV

HL

GL

SP



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ANSWER SHEET 3  
ANTWOORDVEL 3

**QUESTION 4**

Figure 4.1 shows a half-sectional exploded isometric view of a PULLEY ASSEMBLY.  
Figure 4.2 shows the components of the PULLEY ASSEMBLY.

- 4.1 Use the given centre lines on ANSWER SHEET 4 to draw to scale of 1:1 and in first-angle orthographic projection the following assembled views:  
4.1.1 A full sectioned front view on A-A. Show THREE faces of the nut by using the construction method.  
4.1.2 An outside left view. No hidden detail is required.
- 4.2 Insert THREE important dimensions.  
4.3 Print the title and scale in the title block.  
4.4 Show the projection symbol for the projection system used in the space provided.

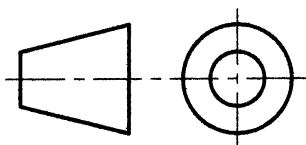
PARTS LIST		
ITEM	NAME	QUANTITY
A	BASE	1
B	PULLEY	1
C	PULLEY PIN	1
D	WASHER	1
E	M20 NUT	1

**VRAAG 4**

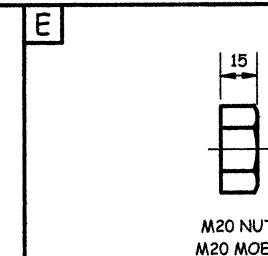
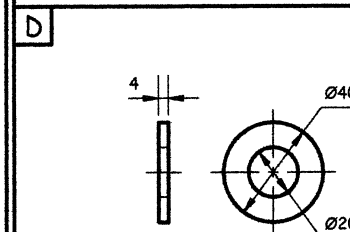
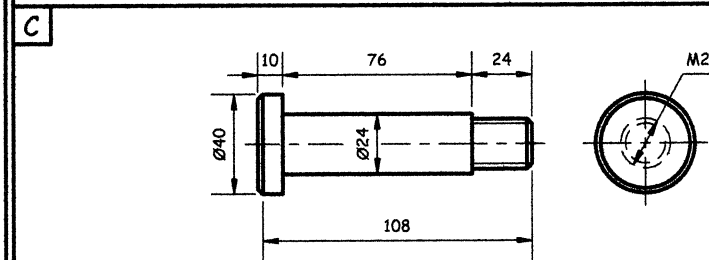
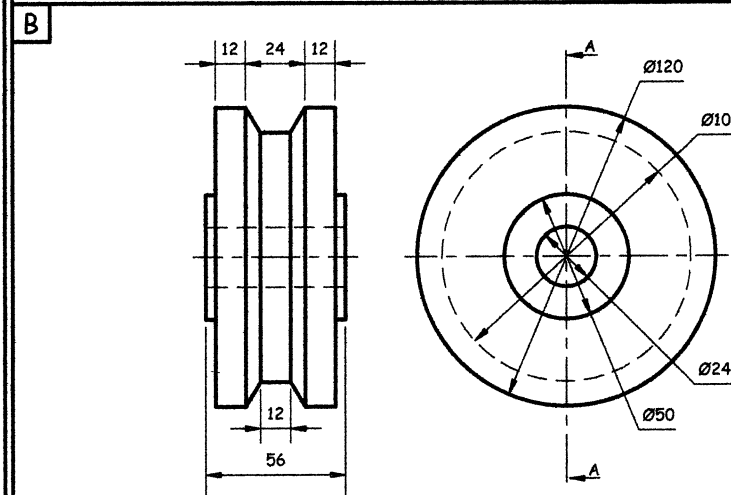
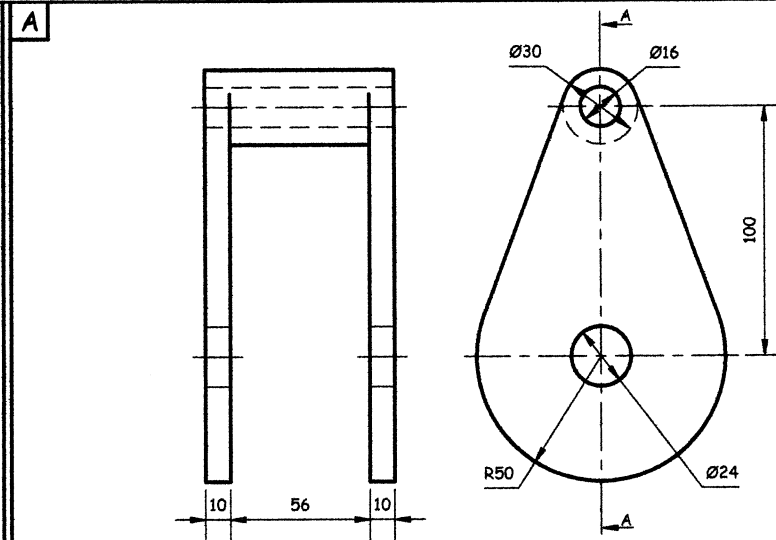
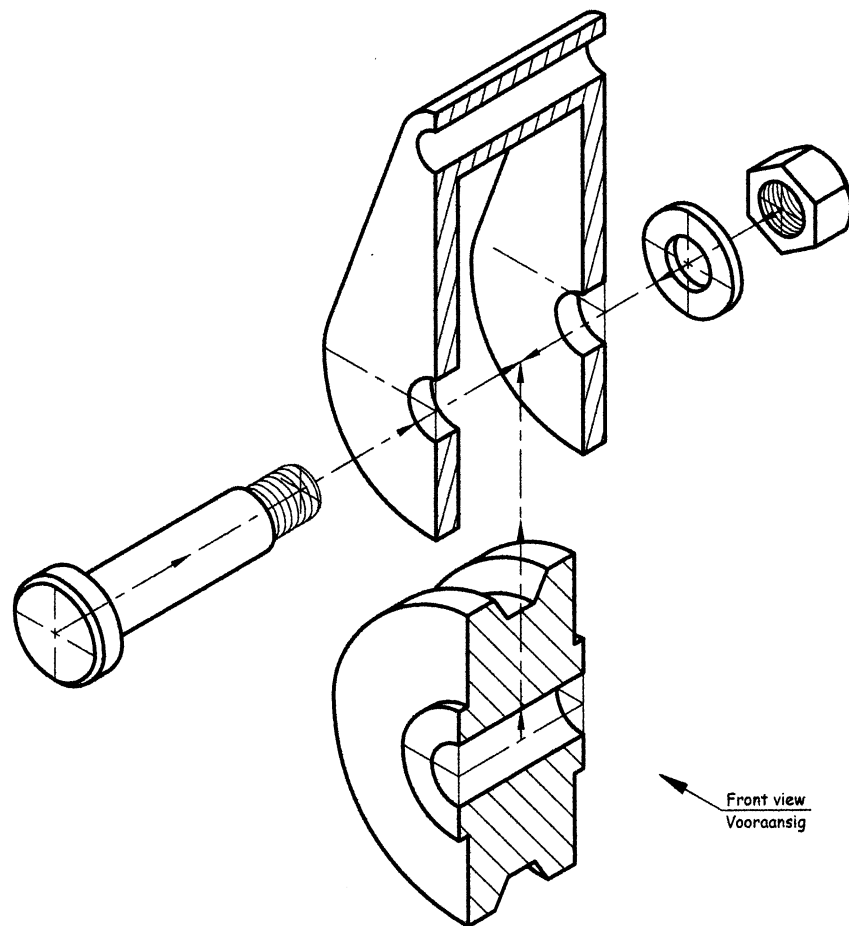
Figuur 4.1 toon 'n halfsnit-, uitskuif-isometriese aansig van 'n KATROL-SAMESTELLING.  
Figuur 4.2 toon die komponente van die KATROL-SAMESTELLING.

- 4.1 Gebruik die gegewe senterlyne (hartlyne) op ANTWOORDVEL 4 en teken volgens 'n skaal 1:1 en in eerstehoekse ortografiese projeksie die volgende saamgestelde aansigte:  
4.1.1 'n Volsnit-vooraansig op A-A. Toon DRIE vlakke van die moer met die konstruksiemetode.  
4.1.2 'n Buite linker-aansig. Geen verborge detail hoef getoon te word nie.
- 4.2 Toon DRIE belangrike afmetings.  
4.3 Drukskryf die titel en skaal in die blok daarvoor voorsien.  
4.4 Toon die projeksiesimbool vir die projeksiestelsel in die ruimte wat daarvoor voorsien is.

ONDERDELELYS		
ITEM	NAAM	HOEVEELHEID
A	BASIS	1
B	KATROL	1
C	KATROL-AS	1
D	WASTER	1
E	M20-MOER	1



**FIG 4.1**



**FIG 4.2**

PULLEY ASSEMBLY  
SCALE 1:1

KATROL-SAMESTELLING  
SKAAL 1:1

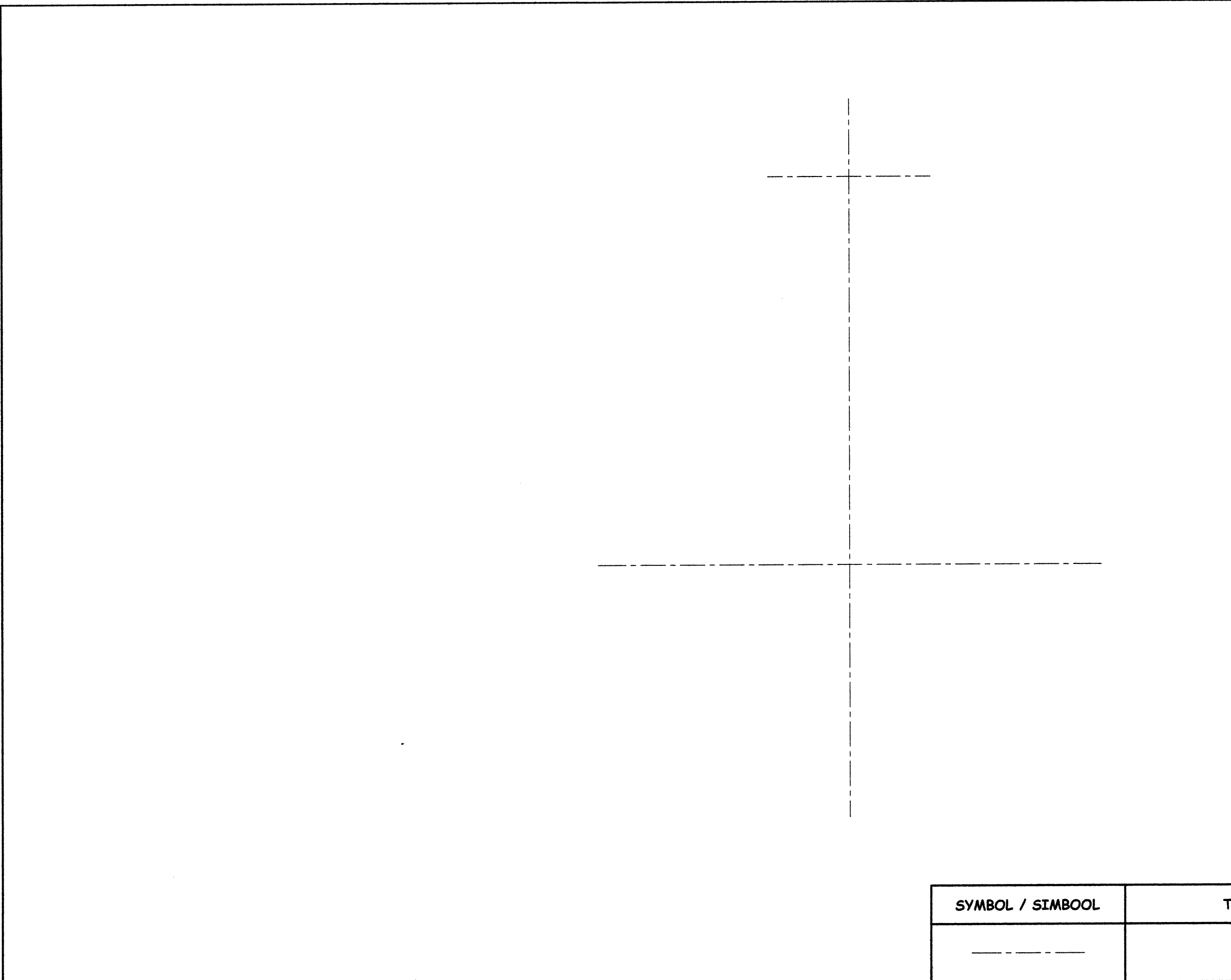
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DIAGRAM SHEET 1  
DIAGRAMVEL 1



<b>FRONT VIEW</b> <b>VOORAANSIG</b>			
PART A	20		
PART B	14		
PART C	8		
PART D	2		
PART E	4		
<b>TOTAL / TOTAAL</b>	<b>48</b>		
<b>LEFT VIEW</b> <b>LINKER-AANSIG</b>			
PART A	6		
PART B	2		
PART C	4		
<b>TOTAL / TOTAAL</b>	<b>12</b>		
<b>48 + 12 = 60</b>	<b>60</b>		
<b>ASSEMBLY</b> <b>SAMESTELLING</b>	<b>4</b>		
<b>DIMENSIONS</b> <b>AFMETINGS</b>	<b>3</b>		
<b>LINEWORK</b> <b>LYNWERK</b>	<b>4</b>		
<b>TITLE</b> <b>TITEL</b>	<b>2</b>		
<b>SYMBOL</b> <b>SIMBOOL</b>	<b>2</b>		
<b>TOTAL</b> <b>TOTAAL</b>	<b>75</b>		

<b>SYMBOL / SIMBOOL</b>	<b>TITLE BLOCK / TITELBLOK</b>	
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ANSWER SHEET 4  
ANTWOORDVEL 4