



basic education

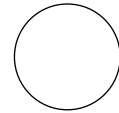
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Candidate Barcode Label/Stafieskodeplakker

NSC Answer Book
NSC-antwoordeboek

National Senior Certificate/Nasionale Senior Sertifikaat (Grade 12/Graad 12) 2024

Confidential/Vertroulik



Sequence No. on mark sheet
Volgnummer op puntestaaf

CENTRE NUMBER
SENTRUMNUMMER

EXAMINATION NUMBER
EKSAMENNUMMER

DATE
DATUM

BOOK NUMBER
BOEKNOMMER

OF
VAN

BOOKS
BOEKE

SUBJECT CODE
VAKKODE

PAPER NUMBER
VRAESTELNUMMER

2

SUBJECT NAME
VAKNAAM

TECHNICAL MATHEMATICS/TEGNIIESE WISKUNDE

MARKER/NASIENER			MODERATOR'S INITIALS IN RELEVANT BLOCK/ MODERATORPARAAF IN BETROKKE BLOKKIE						
Question Vraag	Marks Punte	Marker's Code & Initials	Marks Punte	SM	DCM	CM	IM	EM	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									

RE-MARK/RE-CHECK/ HERNASIEN/HERKONTROLEER		
Question Vraag	Marks Punte	Initials Paraaf
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
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16		

				TOTAL TOTAAL				

				TOTAL TOTAAL				
				HASH TOTAL KAFTOTAAL				

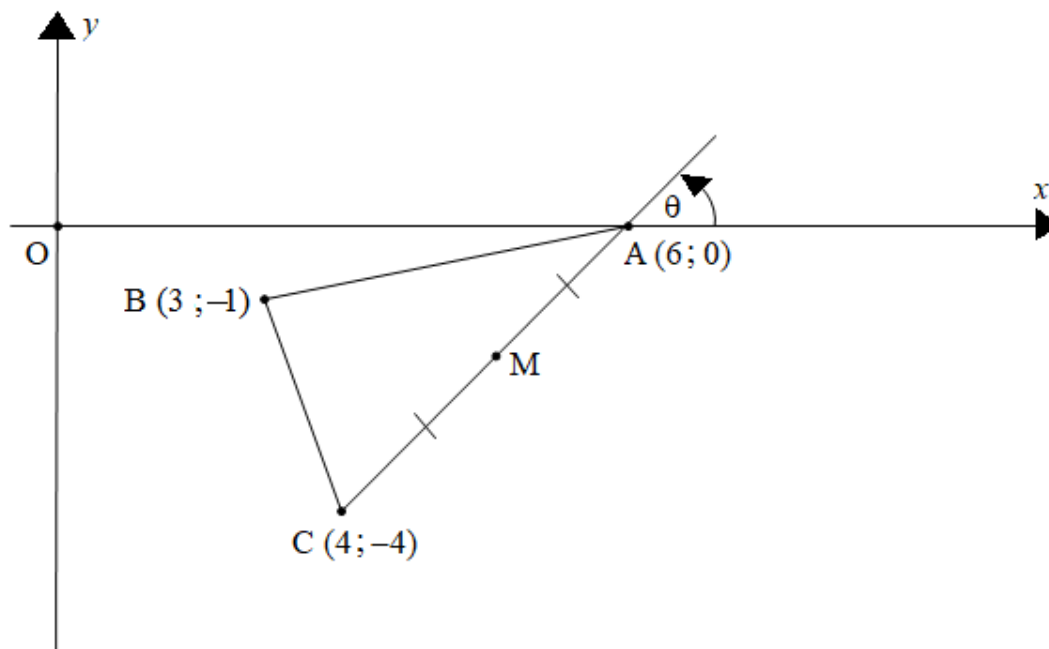
CONTROLLED AND CERTIFIED CORRECT
SURNAME AND INITIALS OF EA

PLEASE READ INSTRUCTIONS ON THE NEXT PAGE
LEES ASSEBLIEF INSTRUKSIES OP VOLGENDE BLADSY

This answer book consists of 27 pages./Hierdie antwoordeboek bestaan uit 27 bladsye.

PLEASE FOLLOW THESE INSTRUCTIONS CAREFULLY	VOLG ASSEBLIEF HIERDIE INSTRUKSIES NOUKEURIG
<ol style="list-style-type: none"> 1. Your examination number and centre number must be clearly written in the space provided and attach your examination number sticker in the space provided. 2. Remember that your own name (or the name of your school) may not appear anywhere on or in this answer book. 3. Answer ALL questions in the spaces provided. 4. No pages may be torn from this answer book. 5. Read the instructions printed on your timetable carefully as well as any other instructions which may be given in each examination paper. 6. Candidates may not retain an answer book or remove it from the examination room. Answer books must be returned to the Invigilator at the end of the examination session. 7. Answers must be written in black/blue ink as distinctly as possible. Do NOT write in the margins. 8. Indicate the questions you have answered by drawing a circle around the relevant numbers on the front cover of the answer book where marks are to be recorded. 9. Draw a line through any work/rough work that must not be marked. 10. In the event that you use the additional space provided: <ol style="list-style-type: none"> 10.1 Write down the question number. 10.2 Leave a line and rule off after your answer. 	<ol style="list-style-type: none"> 1. Skryf jou eksamennommer en sentrumnummer duidelik in die ruimtes verskaf en plak jou eksamennommer-etiket in die ruimte verskaf. 2. Onthou dat jou eie naam (of die naam van jou skool) nie op of in hierdie antwoordeboek mag voorkom nie. 3. Beantwoord ALLE vrae in die ruimtes wat verskaf is. 4. Geen bladsye mag uit hierdie antwoordeboek geskeur word nie. 5. Lees die instruksies wat op jou eksamenrooster gedruk is, sorgvuldig deur, asook enige ander instruksies wat in elke eksamenvraestel gegee word. 6. Geen antwoordeboek mag deur die kandidaat gehou of uit die eksamenlokaal verwyder word nie. Antwoordeboeke moet aan die einde van die eksamensessie aan die toesighouer terugbesorg word. 7. Skryf die antwoorde so duidelik moontlik met swart/blou ink. MOENIE in die kantlyn skryf NIE. 8. Dui die vrae wat jy beantwoord het, op die voorblad van die antwoordeboek aan, waar die punte aangebring word, deur 'n kringetjie te trek om die nommers van die vrae wat jy beantwoord het. 9. Trek 'n netjiese lyn deur enige werk/rofwerk wat nie nagesien moet word nie. 10. In geval jy die bykomende ruimte wat verskaf is, gebruik: <ol style="list-style-type: none"> 10.1 Skryf die vraagnommer neer. 10.2 Laat 'n lyn oop en trek 'n lyn ná jou antwoord.

QUESTION/VRAAG 1

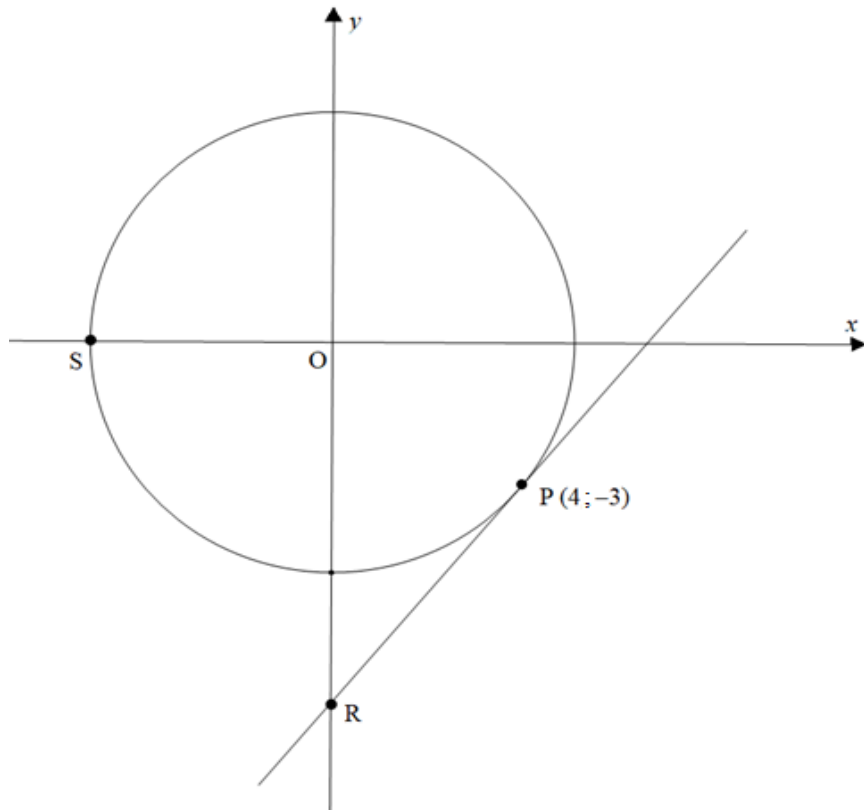


	Solution/Oplossing	Marks Punte
1.1		(2)
1.2		(2)

	Solution/Oplossing	Marks Punte
1.3		(2)
1.4		(2)
1.5		(4)
		[12]

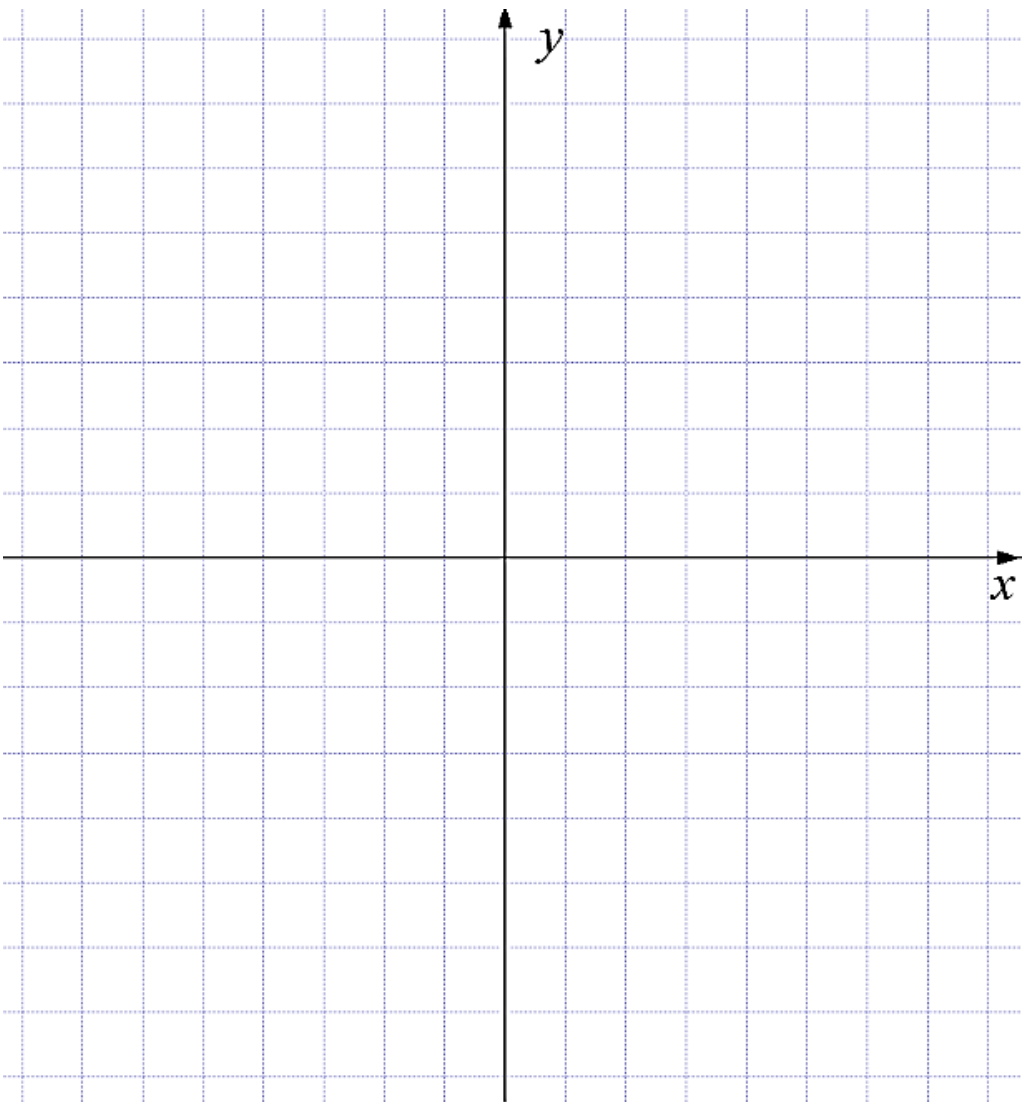
QUESTION/VRAAG 2

2.1

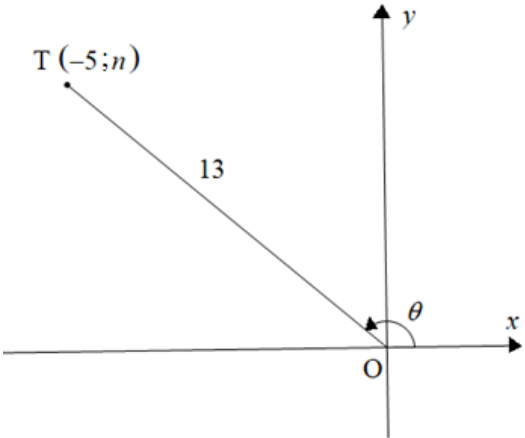


	Solution/Oplossing	Marks Punte
2.1.1		(2)
2.1.2		(2)

	Solution/Oplossing	Marks Punte
2.1.3		(4)
2.1.4		(1)

	Solution/Oplossing	Marks Punte
2.2.1		(1)
2.2.2		(2)
		[12]

QUESTION/VRAAG 3

	Solution/Oplossing	Marks Punte
3.1.1		(1)
3.1.2		(2)
3.1.3		(2)
3.2		(4)
3.2.1		
3.2.2		(4)

	Solution/Oplossing	Marks Punte
3.3		
		(4)
		[14]

QUESTION/VRAAG 4

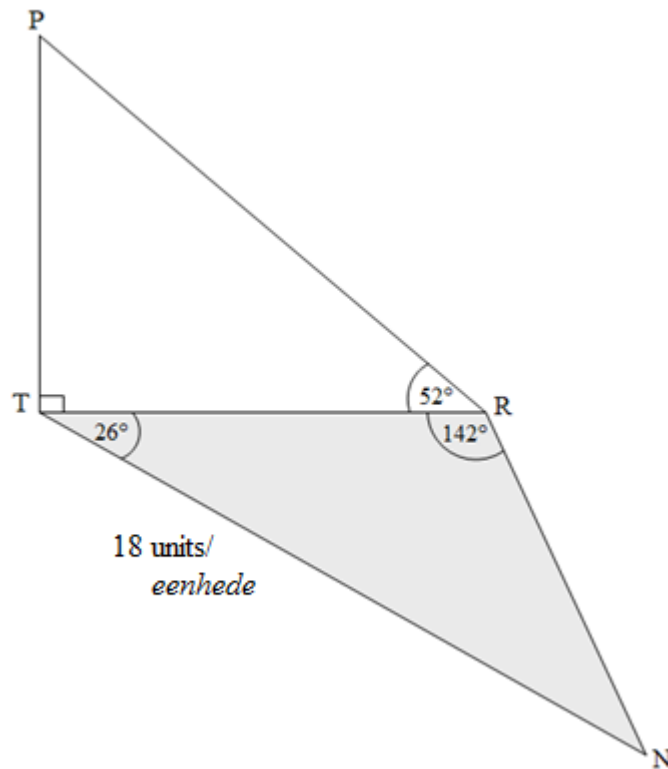
	Solution/Oplissing	Marks Punte
4.1.1		(1)
4.1.2		(1)
4.1.3		(6)

	Solution/Oplossing	Marks Punte
4.2.1		(1)
4.2.2		(4)
		[13]

QUESTION/VRAAG 5

	Solution/Oplossing	Marks Punte
5.1		(6)
5.2.1		(1)
5.2.2		(2)
5.2.3		(1)
5.2.4		(2)
		[12]

QUESTION/VRAAG 6



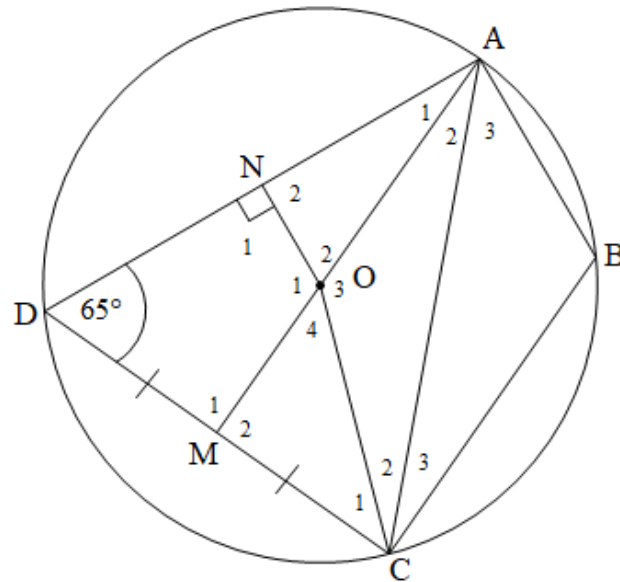
	Solution/Oplossing	Marks Punte
6.1		(1)
6.2		(3)

	Solution/Oplossing	Marks Punte
6.3		(2)
6.4		(5)
		[11]

Give reasons for your statements in QUESTIONS 7, 8 and 9.

Gee redes vir jou bewerings in VRAAG 7, 8 en 9.

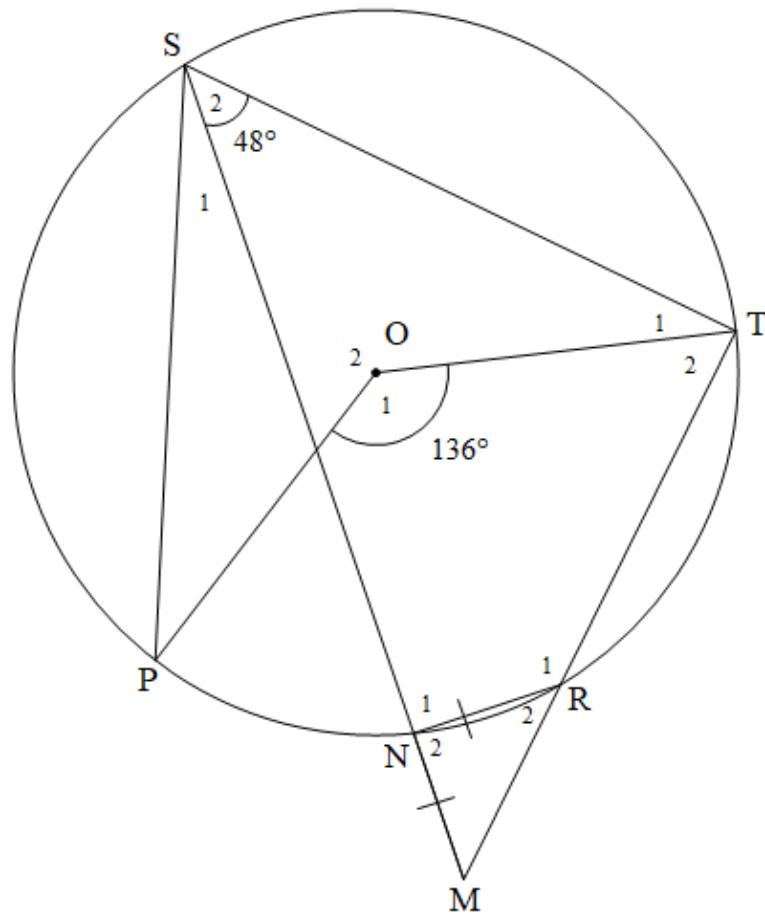
QUESTION/VRAAG 7



	Solution/ <i>Oplossing</i>		Marks <i>Punte</i>
7.1			(1)
7.2			(1)
7.3	STATEMENT/ <i>BEWERING</i>	REASON/ <i>REDE</i>	
	$\hat{O}_1 = \dots$	Opposite \angle s of cyclic quad/ <i>Teenoorstaande \anglee van koordevierhoek</i>	(1)
	$\hat{B} = \dots$	Opposite \angle s of cyclic quad/ <i>Teenoorstaande \anglee van koordevierhoek</i>	(1)
	DN =	(2)

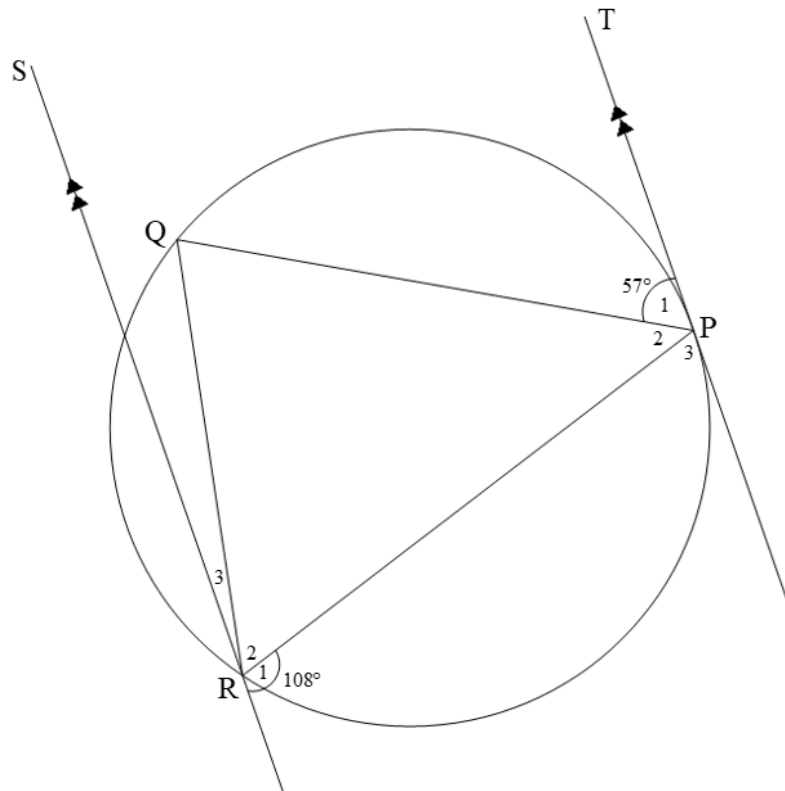
	Solution/Oplossing	Marks Punte
7.4		(3)
7.5		(3)
		[12]

QUESTION/VRAAG 8



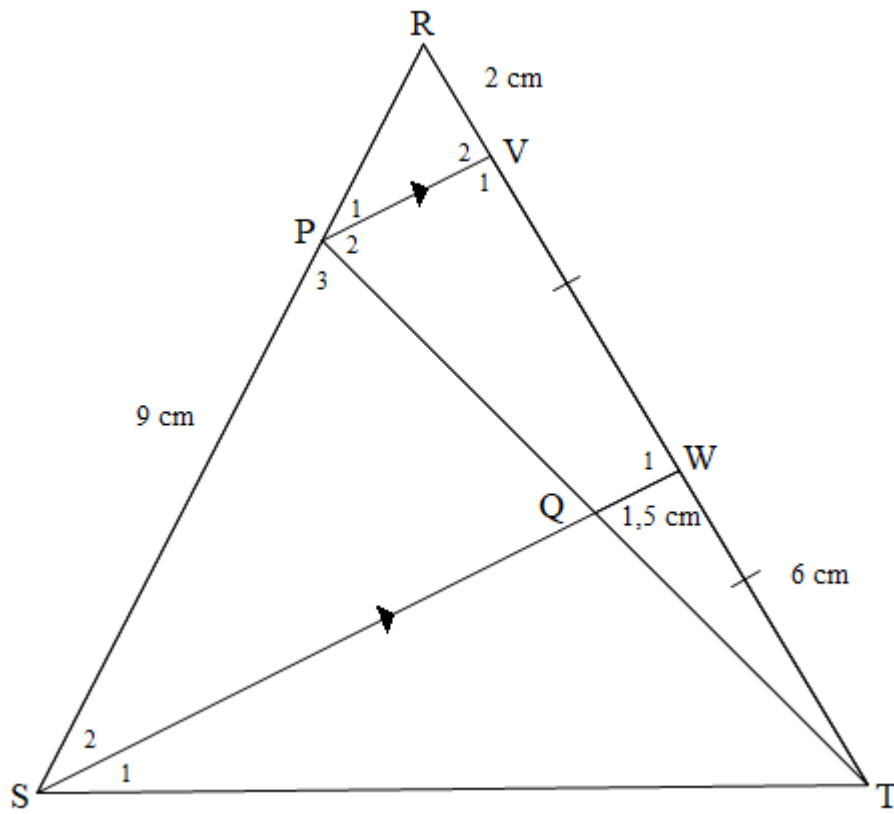
	Solution/Oplissing	Marks Punte
8.1.1		(3)
8.1.2		(6)

8.2



	Solution/Oplissing	Marks Punte
8.2.1		(2)
8.2.2		(4)
		[15]

QUESTION/VRAAG 9

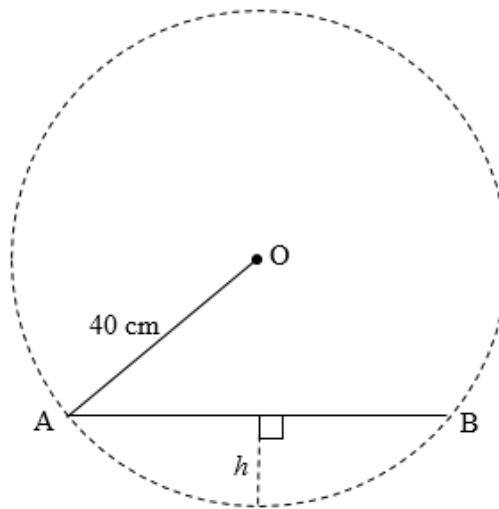


	Solution/Oplossing	Marks Punte
9.1		(1)
9.2		(3)

	Solution/Oplossing	Marks Punte
9.3		(2)
9.4		(3)
9.5		(2)
		[11]

QUESTION/VRAAG 10

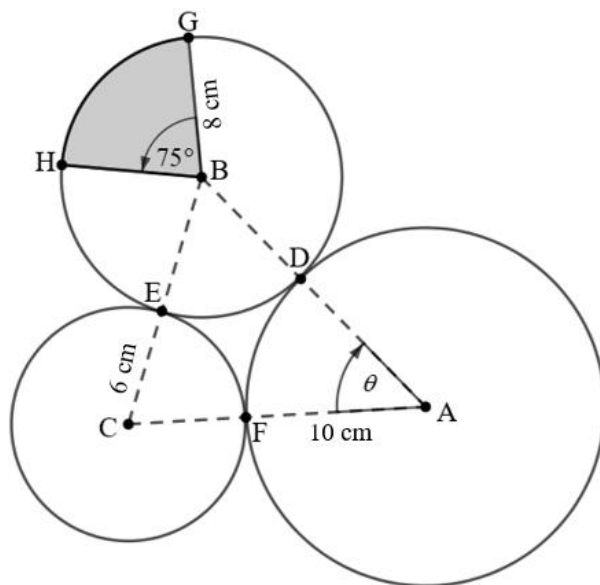
10.1



	Solution/Oplossing	Marks Punte
10.1.1		(1)
10.1.2		(1)
10.1.3		(1)
10.1.4		(3)

	Solution/Oplossing	Marks Punte
10.1.5		
		(4)

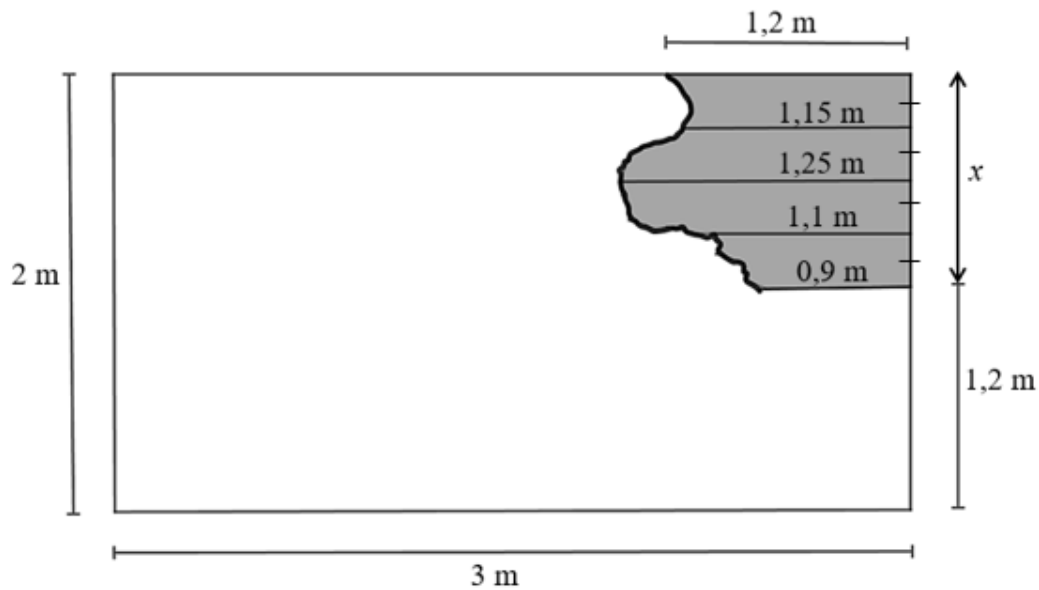
10.2



	Solution/Oplossing	Marks Punte
10.2.1		(1)
10.2.2		(3)
10.2.3		(1)
10.2.4		(5)
		[20]

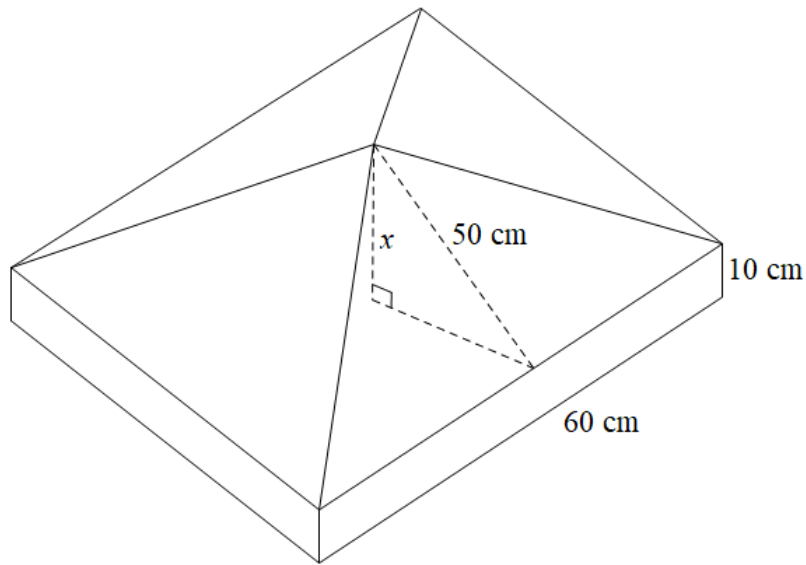
QUESTION/VRAAG 11

11.1



	Solution/Oplossing	Marks Punte
11.1.1		(1)
11.1.2		(1)
11.1.3		(3)
11.1.4		(5)

11.2



	Solution/Oplossing	Marks Punte
11.2.1		(3)
11.2.2		(2)
11.2.3		(3)
		[18]

TOTAL/TOTAAL: 150

[illegible]