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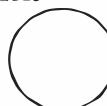
Candidate Barcode label/Stafeskodeplank

SC/NSC Answer Book SS/NSS-~~Antwoordboek~~

Senior Certifica

tional Senior Certificate/Senior Sertifikaat/Nasionale Senior Sertifikaat (Grade 12/Graad 12) 2023

CENTRE NUMBER
SENTRUMNOMMER



EXAMINATION NUMBER
EKSAKENNOMMER

DATE
DATUM

BOOK NUMBER
BOEKNUMMER

OF
VAN

BOOKS
BOEKKE

SUBJECT CODE
VAKKODE

PAPER NUMBER
VRAESTELNOMMER

2

SUBJECT NAME
VAKNAAM

MATHEMATICS/WISKUNDE

MARKER/NASIENER			MODERATOR'S INITIALS IN RELEVANT BLOCK MODERATOR SE VOORLETTERS IN RELEVANTE BLOKKIE									
Question Vraag	Marks Punte	Marker's Code & Initials Nasiener se Kode & Voorletters	Marks Punte	SM	Marks Punte	DCM AHN	Marks Punte	CM IIN	Marks Punte	IM	Marks Punte	EM
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
TOTAL TOTAAL												

CONTROLLED AND CERTIFIED CORRECT
(SURNAME AND INITIALS OF EA)
GEKONTROLEER EN AS KORREK
GESERTIFISEER VAN EN VOORLETTERS
VAN EA)

READ INSTRUCTIONS ON THE NEXT PAGE
LEES INSTRUKSIES OP VOLGENDE BLADJE.

This answer book consists of 24 pages./Hierdie antwoordeboek bestaan uit 24 bladsye.



PLEASE FOLLOW THESE INSTRUCTIONS CAREFULLY		VOLG ASSEBLIEF HIERDIE INSTRUKSIES NOUKEURIG
<p>1. Clearly write your examination number and centre number in the space provided and attach your barcode label in the space provided.</p> <p>2. Remember that your own name (or the name of your school) may not appear anywhere on or in this answer book.</p> <p>3. Answer ALL questions in the spaces provided.</p> <p>4. No pages may be torn from this answer book.</p> <p>5. Read the instructions printed on your timetable carefully as well as any other instructions which may be given in each examination paper.</p> <p>6. Candidates may not retain an answer book or remove it from the examination room.</p> <p>7. Answers must be written in black/blue ink as distinctly as possible. Do not write in the margins.</p> <p>8. Write the numbers of the questions you have answered on the front cover of the answer book where marks are to be recorded.</p> <p>9. If you require additional space for your answers:</p> <ul style="list-style-type: none"> 9.1 Use the additional space provided at the end of the answer book. 9.2 When answering a question in the additional space, indicate clearly the question number in the column on the LHS. 9.3 Rule off after each answer. <p>10. Draw a neat line through any work/rough work that must not be marked.</p>	<p>1. Skryf jou eksamennummer en sentrumnummer duidelik in die ruimtes verskaf en plak jou stasieskodeplakker in die ruimte verskaf.</p> <p>2. Onthou dat jou eie naam (of die naam van jou skool) nie op of in hierdie antwoordeboek mag voorkom nie.</p> <p>3. Beantwoord ALLE vrae in die ruimtes wat voorsien is.</p> <p>4. Geen bladsye mag uit hierdie antwoordeboek geskeur word nie.</p> <p>5. Lees die instruksies wat op jou eksamenrooster gedruk is, sorgvuldig deur, asook enige ander instruksies wat op elke eksamenvraestel gegee word.</p> <p>6. Geen antwoordeboek mag deur die kandidaat behou of uit die eksamenlokaal verwyder word nie.</p> <p>7. Skryf die antwoorde so duidelik moontlik met swart/blou ink. Laat die kantlyne oop.</p> <p>8. Skryf die nommers van die vrae wat jy beantwoord het op die voorblad van die antwoordeboek waar die punte aangebring word.</p> <p>9. In geval jy bykomende ruimte benodig vir jou antwoorde:</p> <ul style="list-style-type: none"> 9.1 Gebruik die bykomende ruimte wat aan die einde van die antwoerdeboek voorsien word. 9.2 As 'n vraag in die bykomende ruimte beantwoord word, dui duidelik die vraagnommer in die kolom aan die LK aan. 9.3 Trek 'n lyn na elke antwoord. <p>10. Trek 'n netjiese lyn deur enige werk/rofwerk wat nie nagesien moet word nie.</p>	



QUESTION/VRAAG 1

1.1

Amount spent on advertising (in rands)/ Bedrag aan advertensies spandeer (in rand) (x)	21 300	23 700	24 800	30 540	24 100	40 680	22 400	35 250	29 110
Sales (in rands)/ Verkope (in rand) (y)	311 500	326 700	349 200	470 000	316 100	564 200	314 000	487 300	392 900

	Solution/Oplossing	Marks/Punte
1.1.1		(3)
1.1.2		(2)
1.1.3		(1)
1.1.4		(1)



1.2

Profit (in rands)/ Wins (in rand)	110 750	103 376	152 338	244 480	144 021	275 994	121 900	207 636	187 700
--	---------	---------	---------	---------	---------	---------	---------	---------	---------

	Solution/Oplossing	Marks Punte
1.2.1		
1.2.2		(1)
1.2.3		(2)
		[12]

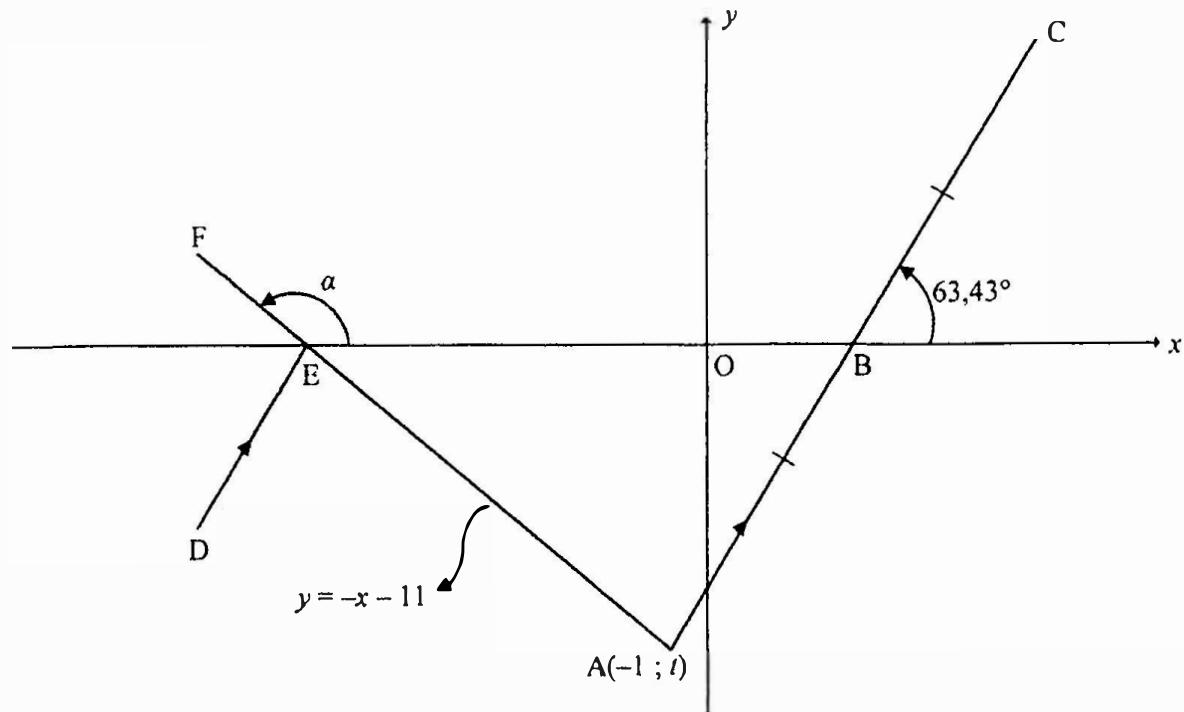


QUESTION/VRAAG 2

AGE/OUDERDOM	NUMBER OF PEOPLE/ GETAL MENSE
$5 < x \leq 15$	20
$15 < x \leq 25$	25
$25 < x \leq 35$	60
$35 < x \leq 45$	90
$45 < x \leq 55$	55
$55 < x \leq 65$	40
$65 < x \leq 75$	30

	Solution/Oplossing	Marks Punte
2.1		(1)
2.2		(1)
2.3	<p style="text-align: center;">OGIVE/OGIEF</p> <p style="text-align: center;">Cumulative frequency/ Kumulatiewe frekvensie</p> <p style="text-align: center;">Age of people/Ouderdom van mense</p>	(4)
2.4		(2) [8]



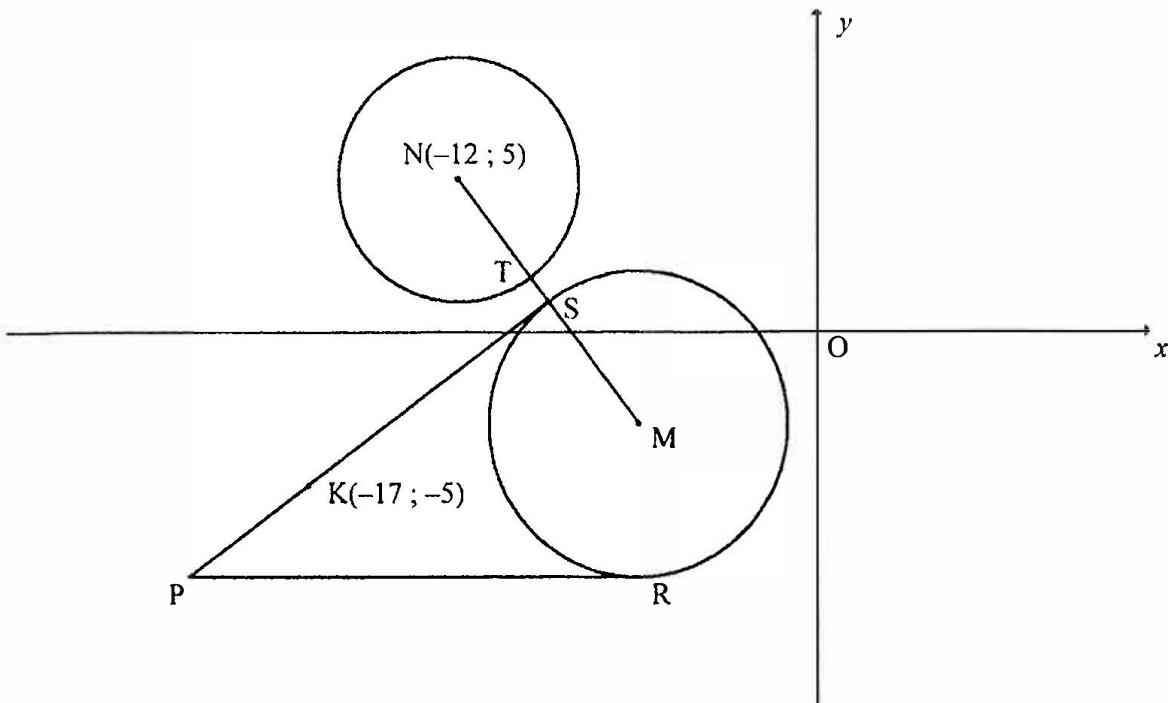
QUESTION/VRAAG 3

	Solution/Oplossing	Marks/Punte
3.1.1		(2)
3.1.2		(2)
3.1.3		(2)
3.2		(2)



	Solution/Oplossing	Marks/Punte
3.3.1		(3)
3.3.2		(3)
3.4		(4) [18]



QUESTION/VRAAG 4

	Solution/Opllossing	Marks/Punte
4.1		(2)
4.2.1		(2)
4.2.2		(4)



	Solution/Oplossing	Marks/Punte
4.3.1		(2)
4.3.2		(5)
4.4.1		(5)
4.4.2		(2)



	Solution/<i>Oplossing</i>	Marks/ Punte
5.5.1		
5.5.2		(4)
		(3)
		[28]



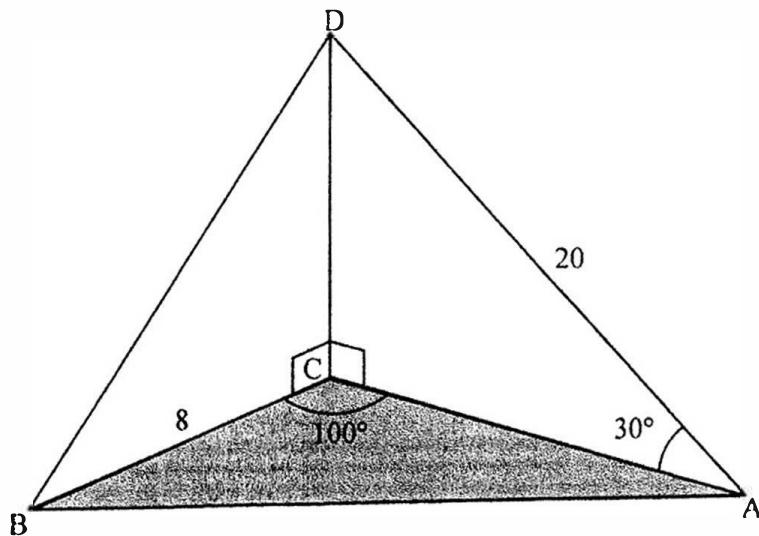
QUESTION/VRAAG 6

	Solution/Oplossing	Marks/Punte
6.1		
6.2		(1)
6.3		
6.4		(1)
6.5.1		(2)



	Solution/Oplossing	Marks/Punte
6.5.2	<p>Handwritten solution for question 6.5.2, consisting of several lines of mathematical work.</p>	(4) [13]



QUESTION/VRAAG 7

	Solution/Oplossing	Marks/Punte
7.1.1		(2)
7.1.2		(3)
7.2		(3)
		[8]

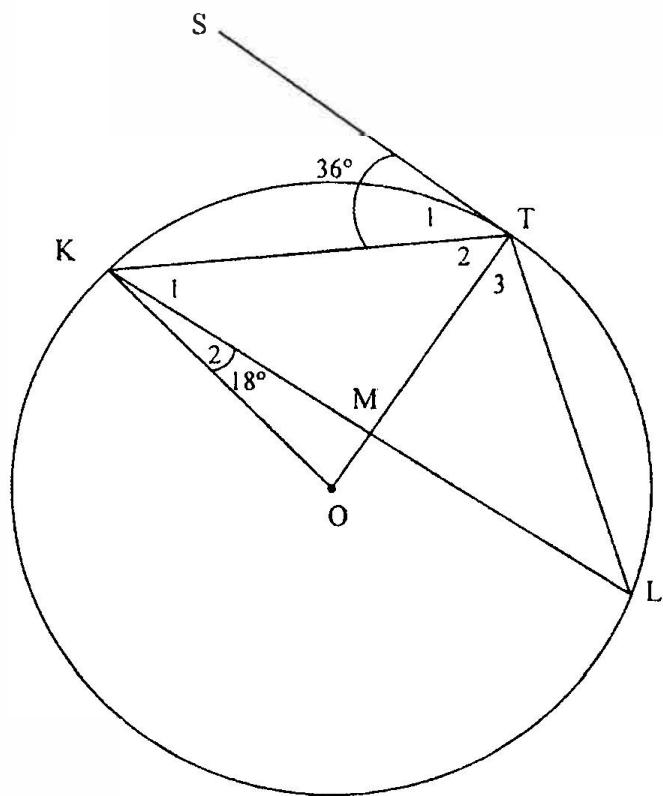


Give reasons for your statements in QUESTIONS 8, 9 and 10.

Gee redes vir jou bewerings in VRAAG 8, 9 en 10.

QUESTION/VRAAG 8

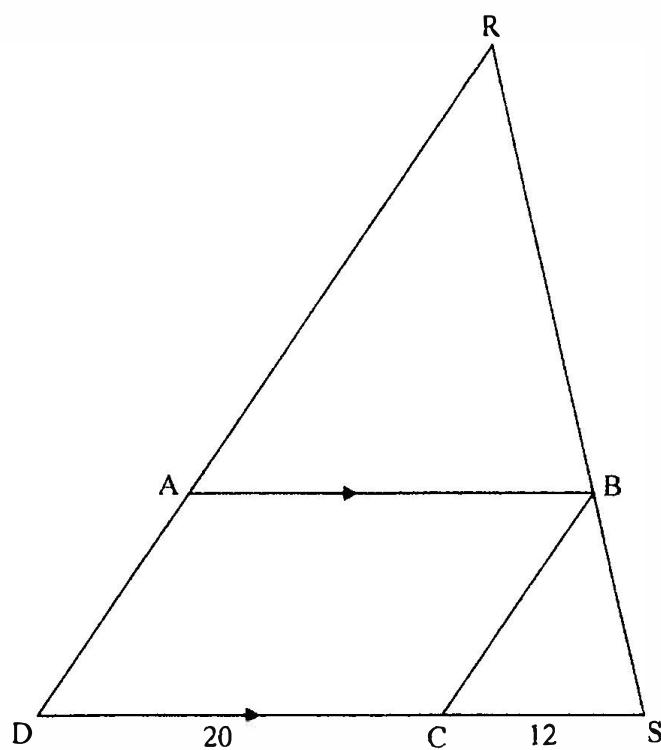
8.1



	Solution/Oplossing	Marks/Punte
8.1.1(a)		(2)
8.1.1(b)		(2)
8.1.1(c)		(2)
8.1.2		(3)



8.2

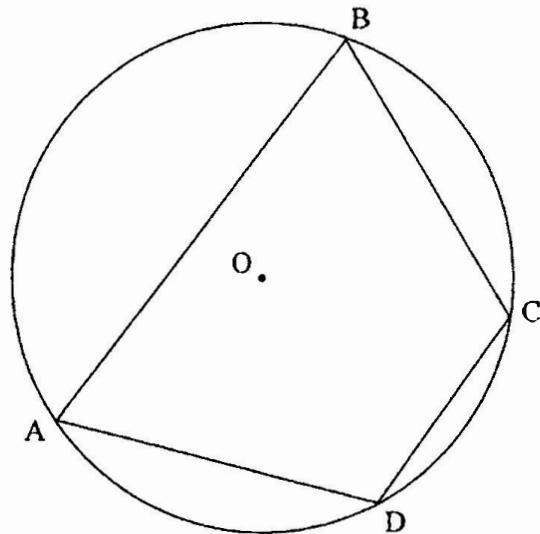


	Solution/Oplossing	Marks/Punte
8.2.1		(3)
8.2.2		(3)



QUESTION/VRAAG 9

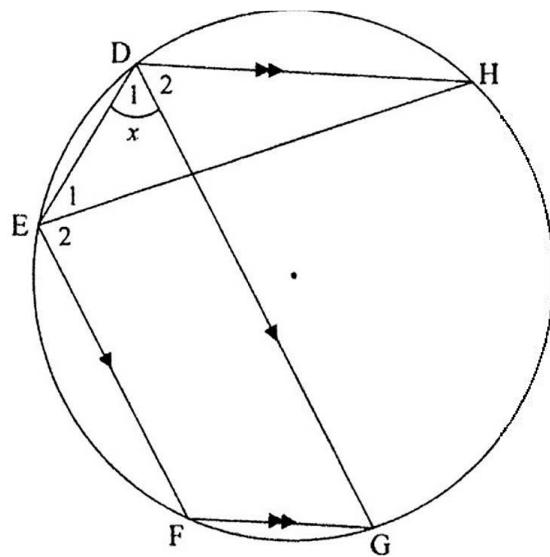
9.1



	Solution/ <i>Oplossing</i>	Marks/ <i>Punte</i>
		(5)

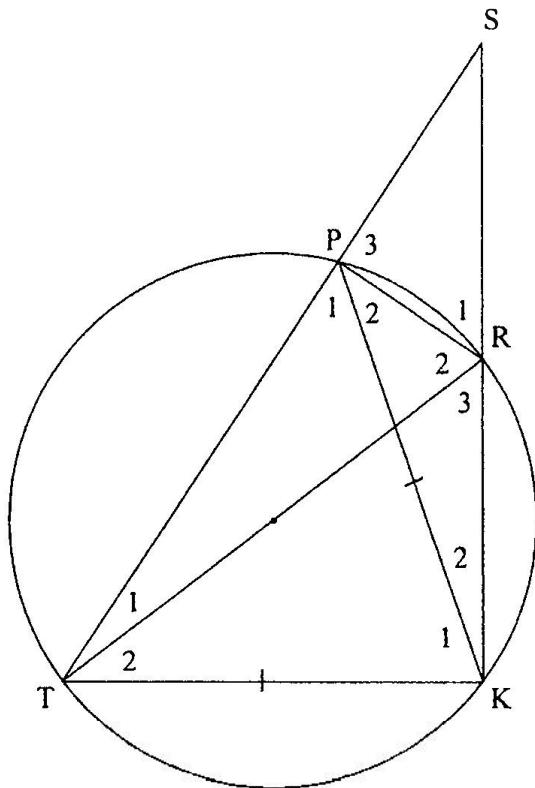


9.2



	Solution/Oplossing	Marks Punte
	<p>Given: A circle with center O. Points D, E, F, G, and H are on the circumference. Chords DE and EH are drawn. Angle 1 is at vertex E between chord DE and radius OH. Angle 2 is at vertex E between chord EH and radius OG. Angle x is at vertex E between chord DE and chord EH.</p> <p>To prove: $x = 1 + 2$</p> <p>Proof:</p> <p>From the angle at the circumference theorem, we know that the angle at the circumference is half the angle at the center subtended by the same arc.</p> <p>Let $\angle HOE = \alpha$. Then $\angle 1 = \frac{1}{2}\alpha$.</p> <p>Let $\angle GOE = \beta$. Then $\angle 2 = \frac{1}{2}\beta$.</p> <p>Now, $\angle x = \angle 1 + \angle 2$ (since they are adjacent angles on a straight line).</p> <p>Therefore, $x = \frac{1}{2}\alpha + \frac{1}{2}\beta = \frac{1}{2}(\alpha + \beta) = \frac{1}{2}\angle HOE + \frac{1}{2}\angle GOE = \frac{1}{2}\angle HOG$.</p> <p>But $\angle HOG = \angle HOE + \angle GOE = \alpha + \beta$.</p> <p>Thus, $x = \frac{1}{2}(\alpha + \beta) = \frac{1}{2}(\angle HOE + \angle GOE) = \frac{1}{2}\angle HOG = 1 + 2$.</p>	(4) [9]



QUESTION/VRAAG 10

	<i>Solution/Oplossing</i>	<i>Marks/Punte</i>
10.1.1		
10.1.2		(4)
		(5)



	Solution/Oplossing	Marks/Punte
10.1.3		
10.2		(3)
		(5)
		17



Supplementary page for writing additional answers.

	Additional space/<i>Bykomende ruimte</i>	Marks/ Punte



	Additional space/Bykomende ruimte	Marks/Punte



	Additional space/<i>Bykomende ruimte</i>	Marks/ Punte

TOTAL/TOTAAL: 150



RE-MARKURE-CHECK HERMERK/HERSIEN			
Question Vraag	Marks Punte	Initials Voorletters	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
TOTAL TOTAAL			
HASH TOTAL KAF- TOTAAL			

