

NAME OF LEARNER: <i>NAAM VAN LEERDER:</i>	
CLASS: <i>KLAS:</i>	

**NATIONAL SENIOR CERTIFICATE  
*NASIONALE SENIOR SERTIFIKAAT***

**MATHEMATICS P2/*WISKUNDE V2***

**GRADE/*GRAAD* 11**

**NOVEMBER 2019**

**SPECIAL ANSWER BOOK  
*SPESIALE ANTWOORDEBOEK***

QUESTION <i>VRAAG</i>	MARK <i>PUNT</i>			INITIAL <i>PARAAF</i>	MODERATION <i>MODERERING</i>			INITIAL <i>PARAAF</i>
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
TOTAL <i>TOTAAL</i> (150)								

**This answer book consists of 21 pages.  
*Hierdie antwoordeboek bestaan uit 21 bladsye.***



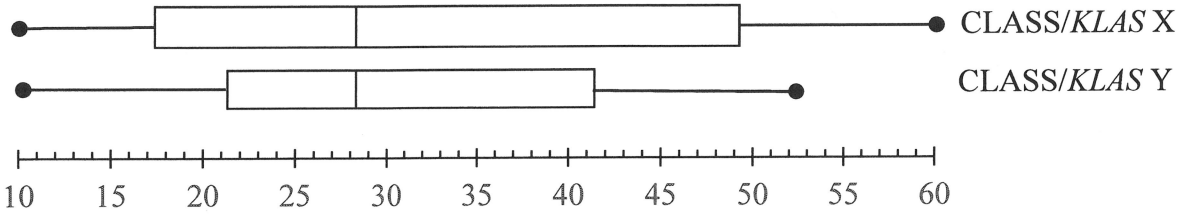
**QUESTION/VRAAG 1**

<b>SELLING PRICE/ VERKOOPSPRYS (IN THOUSANDS OF RANDS/ IN DUISENDE RAND)</b>	<b>FREQUENCY/ FREKWENSIE</b>	<b>CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE</b>
$50 \leq x < 60$	3	3
$60 \leq x < 70$	4	7
$70 \leq x < 80$	<i>a</i>	14
$80 \leq x < 90$	19	33
$90 \leq x < 100$	12	<i>b</i>
$100 \leq x < 110$	5	50

	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
1.1		
		(2)
1.2	<p style="text-align: center;"><b>Cumulative frequency graph on the price of cars/ Kumulatiewefrekwensie-grafiek oor die prys van motors</b></p>	(3)
1.3		(1)
		<b>[6]</b>



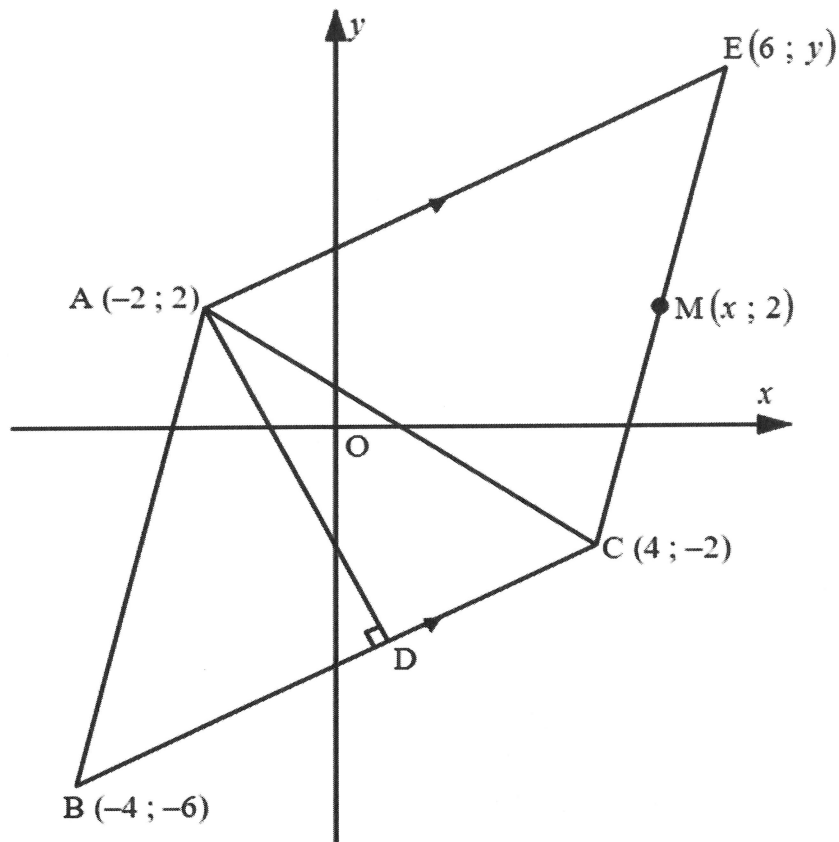
**QUESTION/VRAAG 2**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
2.1.1		(1)
2.1.2		(1)
2.1.3		(2)
2.2.1		(8)
2.2.2		(3)
		<b>[15]</b>



**QUESTION/VRAAG 3**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
3.1		(3)
3.2		(3)



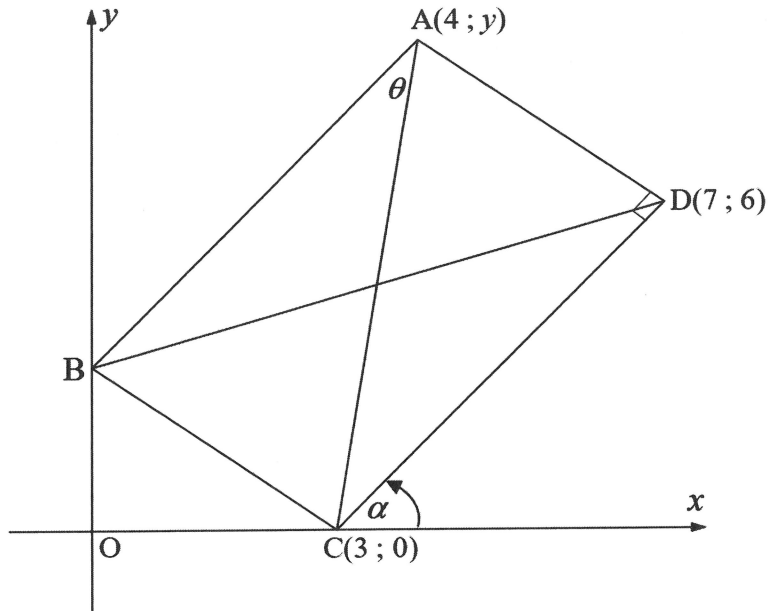
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
3.3		(2)
3.4		(1)
3.5		(3)
3.6		(5)



3.7		
		(3)
		<b>[20]</b>



**QUESTION/VRAAG 4**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
4.1		(2)
4.2		(2)
4.3		(4)

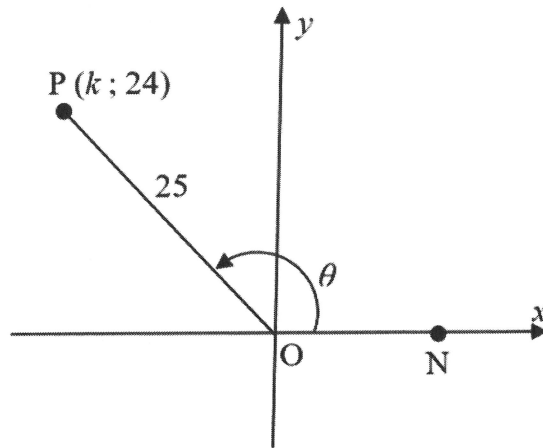


4.4		
		(5)
		<b>[13]</b>





**QUESTION/VRAAG 5**



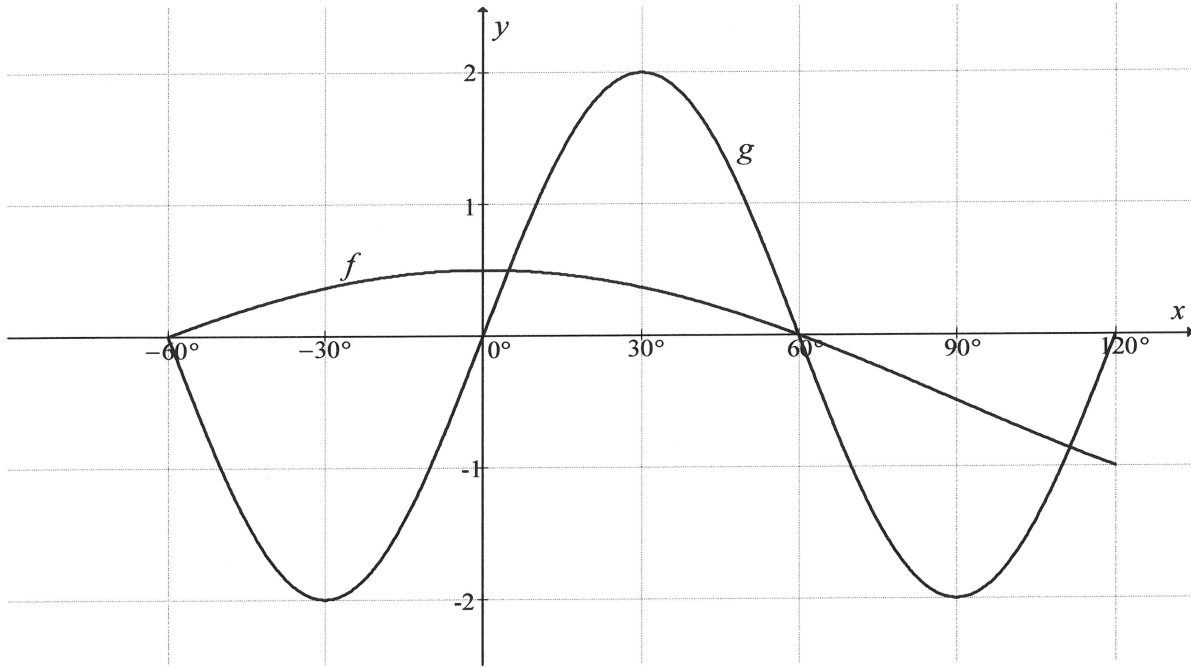
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
5.1.1		(2)
5.1.2		(1)
5.1.3		(3)
5.1.4		(3)



5.2		
	(5)	
5.3		
	(4)	
5.4		
	(6)	
	[24]	



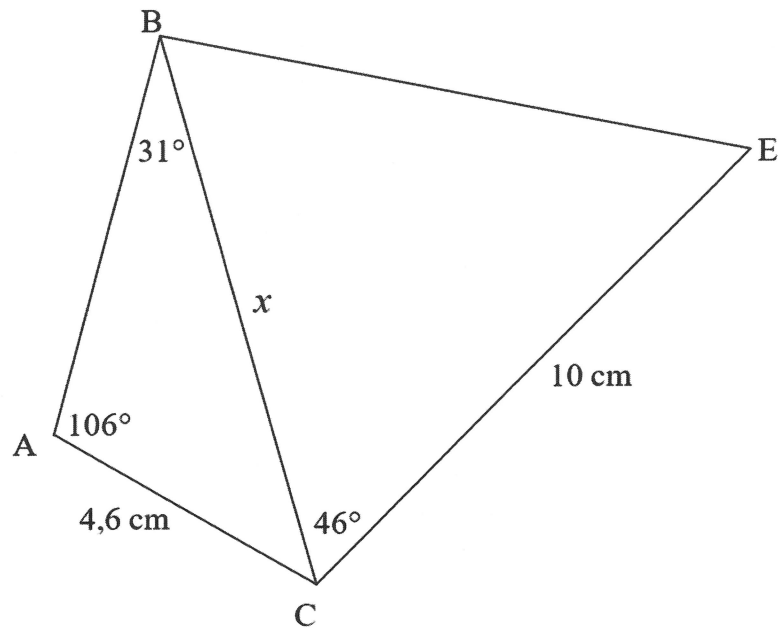
**QUESTION/VRAAG 6**



	<b>Solution/Oplossing</b>	<b>Marks Punte</b>
6.1		(1)
6.2		(2)
6.3		(2)
6.4		(4)
		<b>[9]</b>



**QUESTION/VRAAG 7**

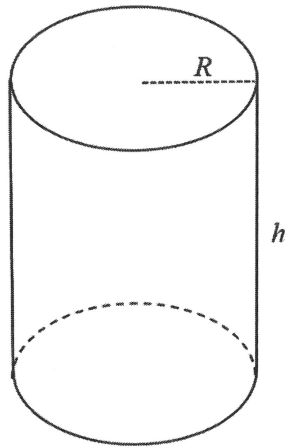


	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
7.1.1		(3)
7.1.2		(4)





**QUESTION/VRAAG 8**



$$\text{Volume of sphere} = \frac{4}{3} \pi r^3$$

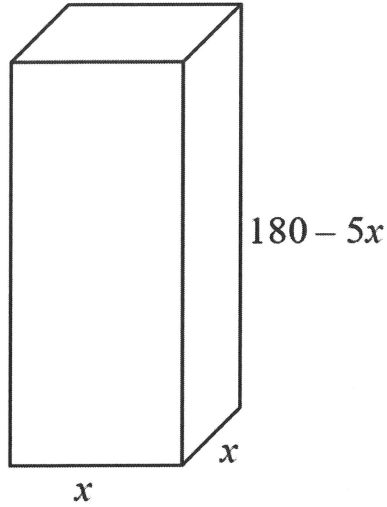
$$\text{Surface area of a sphere} = 4\pi r^2$$

$$\text{Volume van sfeer} = \frac{4}{3} \pi r^3$$

$$\text{Oppervlakte van 'n sfeer} = 4\pi r^2$$

	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
8.1.1		(2)
8.1.2		(3)



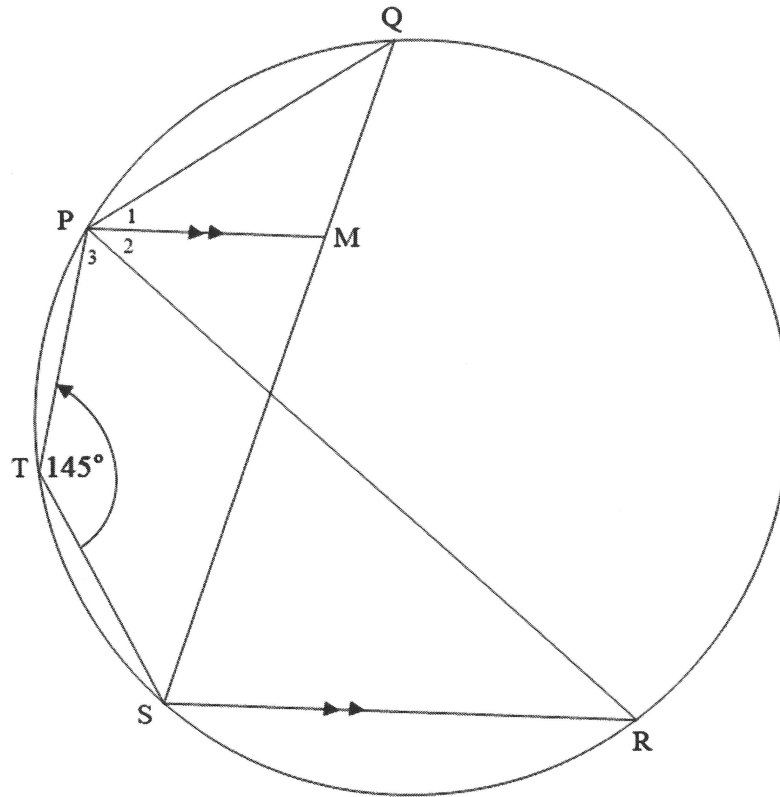


8.2		
		(5)
		[10]



Give reasons for your statements and calculations in QUESTIONS 9, 10 en 11.  
 Gee redes vir jou bewerings en berekeninge in VRAAG 9, 10 en 11.

QUESTION/VRAAG 9

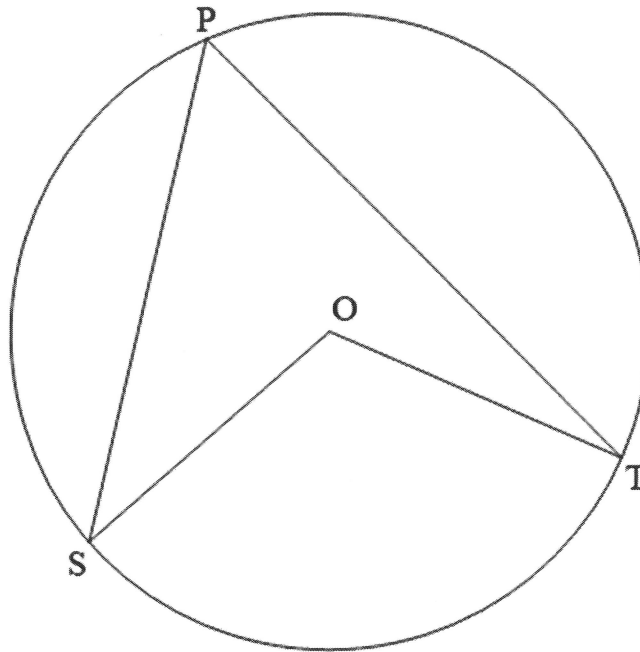


	Solution/Oplissing	Marks Punte
9.1.1		(2)
9.1.2		(2)
9.1.3		(1)
9.2		(1)
		[6]



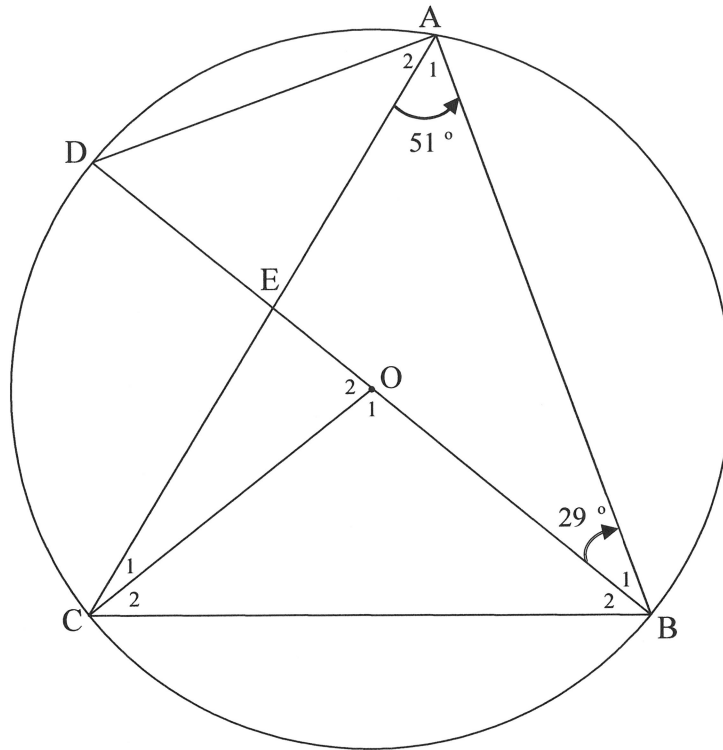


**QUESTION/VRAAG 10**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
10.1	<div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div>	(5)

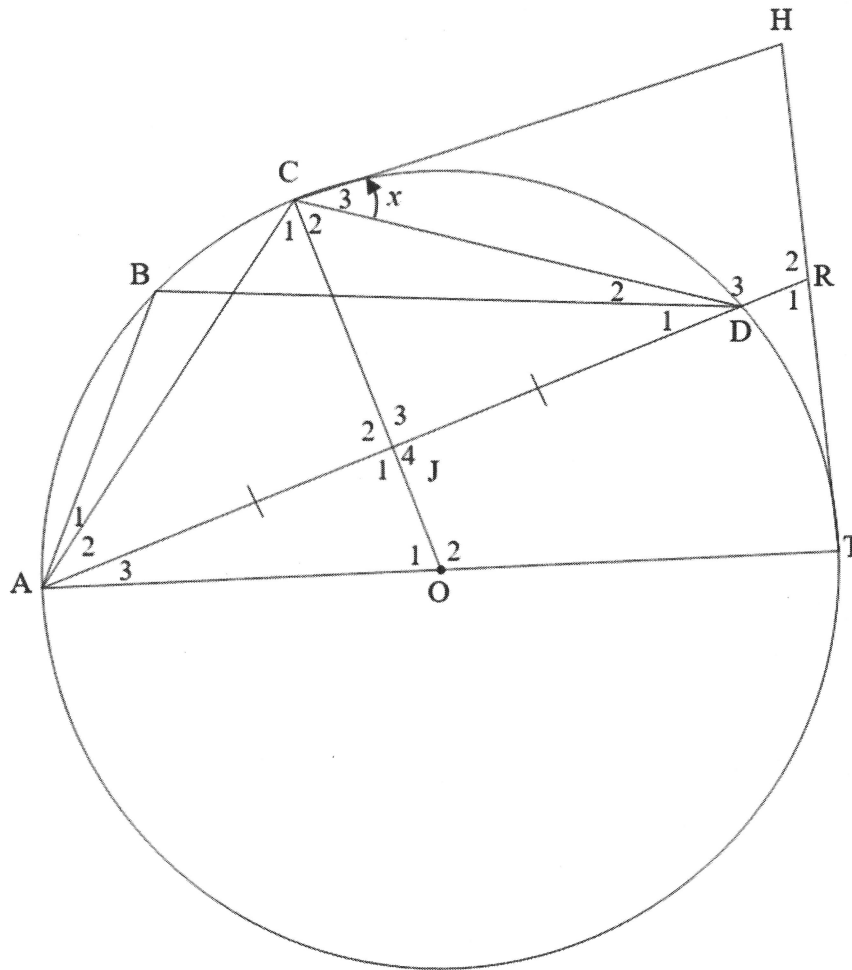




10.2.1		
		(2)
10.2.2		
		(2)
10.2.3		
		(1)
10.2.4		
		(3)
		<b>[13]</b>



**QUESTION/VRAAG 11**



11.1		
		(2)
11.2		
		(5)



11.3		(3)
11.4		(2)
11.5		(6)
	<b>[18]</b>	

**TOTAL/TOTAAL: 150**









