

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 2017**

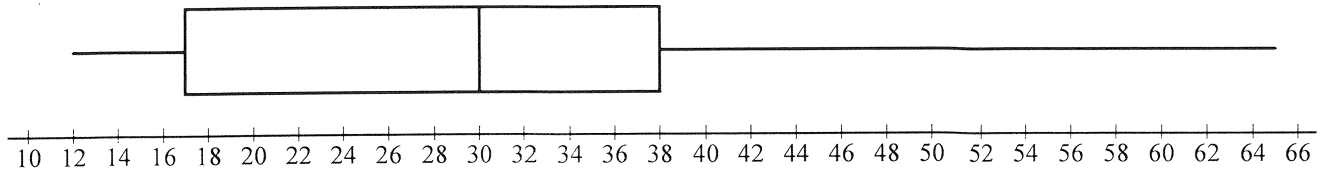
<p><b>SPECIAL ANSWER BOOK  <i>SPESIALE ANTWOORDEBOEK</i></b></p>
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QUESTION <i>VRAAG</i>	MARK <i>PUNT</i>			INITIAL <i>PARAAF</i>	MODERATION <i>MODERERING</i>			INITIAL <i>PARAAF</i>
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
TOTAL <i>TOTAAL</i> (150)								

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



**QUESTION/VRAAG 1**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
1.1.1		(2)
1.1.2		(1)
1.1.3		(1)

5	8	10	17	20	29	32	48	50	50	63	$y$	107
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1.2.1		(2)
1.2.2		(1)
1.2.3		(3)
		<b>[10]</b>



## QUESTION/VRAAG 2

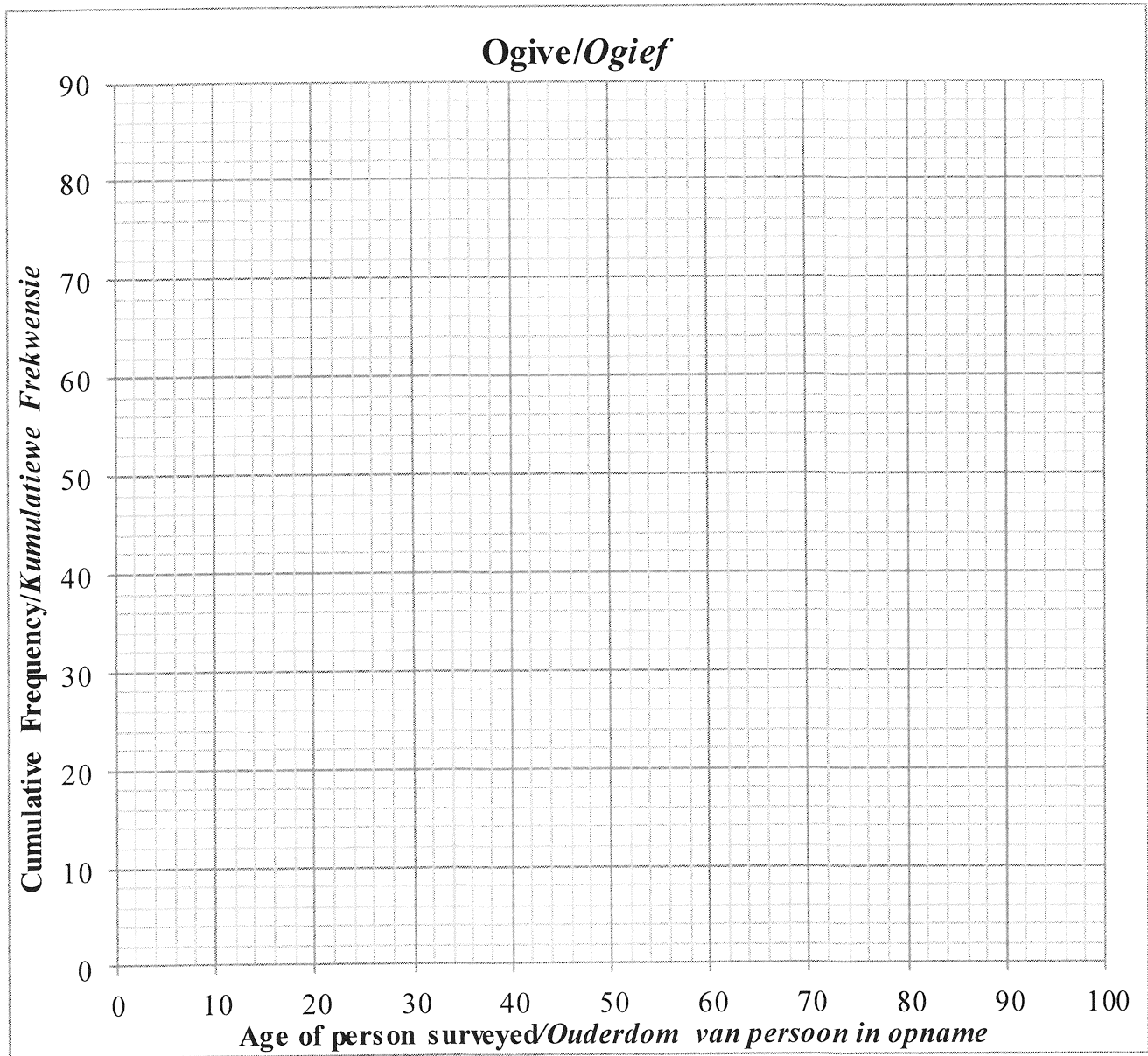
	Solution/Oplissing	Marks Punte																								
2.1	<table border="1"> <thead> <tr> <th>AGE OF PERSON SURVEYED /OUDERDOM VAN PERSOON IN OPNAME</th> <th>FREQUENCY/ FREKWENSIE</th> <th>CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE</th> </tr> </thead> <tbody> <tr> <td><math>20 &lt; x \leq 30</math></td> <td>7</td> <td>7</td> </tr> <tr> <td><math>30 &lt; x \leq 40</math></td> <td></td> <td>27</td> </tr> <tr> <td><math>40 &lt; x \leq 50</math></td> <td>25</td> <td></td> </tr> <tr> <td><math>50 &lt; x \leq 60</math></td> <td></td> <td>64</td> </tr> <tr> <td><math>60 &lt; x \leq 70</math></td> <td></td> <td>72</td> </tr> <tr> <td><math>70 &lt; x \leq 80</math></td> <td>4</td> <td></td> </tr> <tr> <td><math>80 &lt; x \leq 90</math></td> <td></td> <td>80</td> </tr> </tbody> </table>	AGE OF PERSON SURVEYED /OUDERDOM VAN PERSOON IN OPNAME	FREQUENCY/ FREKWENSIE	CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE	$20 < x \leq 30$	7	7	$30 < x \leq 40$		27	$40 < x \leq 50$	25		$50 < x \leq 60$		64	$60 < x \leq 70$		72	$70 < x \leq 80$	4		$80 < x \leq 90$		80	(4)
AGE OF PERSON SURVEYED /OUDERDOM VAN PERSOON IN OPNAME	FREQUENCY/ FREKWENSIE	CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE																								
$20 < x \leq 30$	7	7																								
$30 < x \leq 40$		27																								
$40 < x \leq 50$	25																									
$50 < x \leq 60$		64																								
$60 < x \leq 70$		72																								
$70 < x \leq 80$	4																									
$80 < x \leq 90$		80																								
2.2		(1)																								
2.3		(1)																								



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
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2.4

(3)



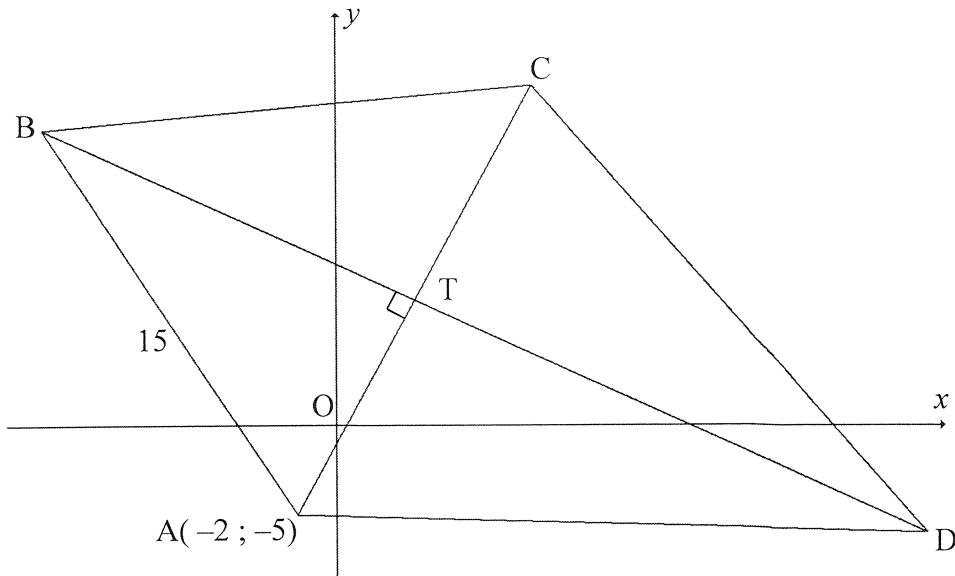
2.5		

(3)

[12]



**QUESTION/VRAAG 3**



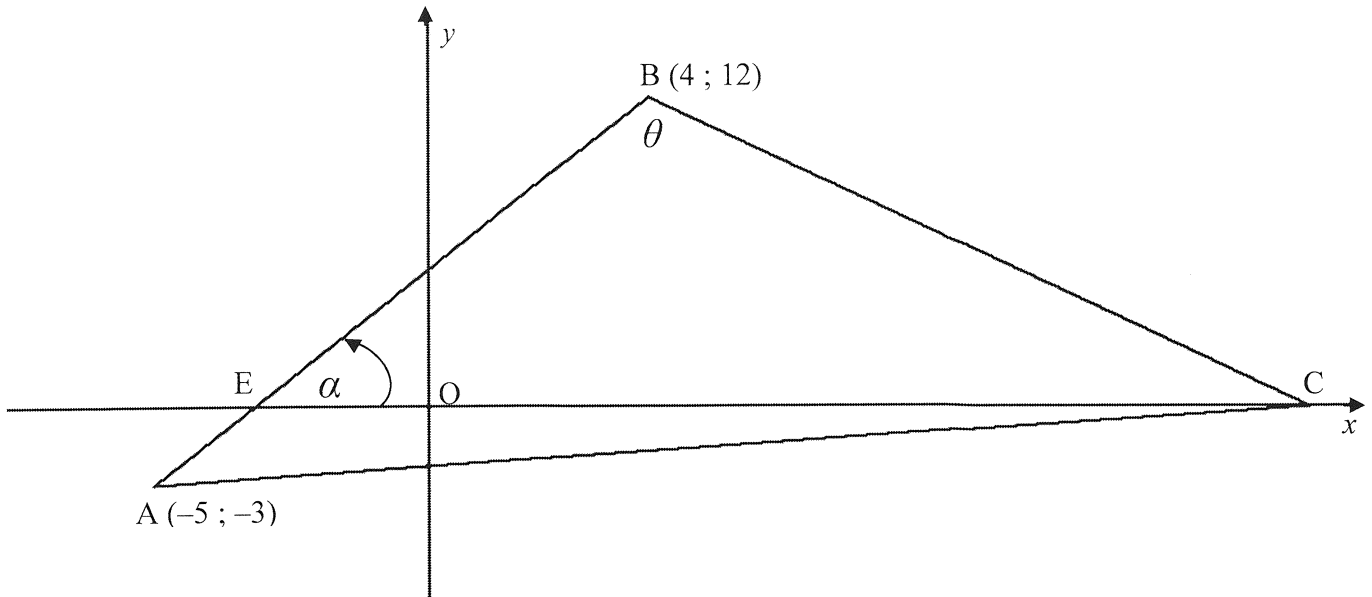
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
3.1		(2)
3.2		(2)



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
3.3		(3)
3.4.1		(2)
3.4.2		(4)
3.4.3		(2)
		<b>[15]</b>



**QUESTION/VRAAG 4**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
4.1		(2)
4.2		(3)



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
4.3		
		(2)
4.4		
		(5)
		[12]

<b>Additional space/Bykomende ruimte</b>		
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>

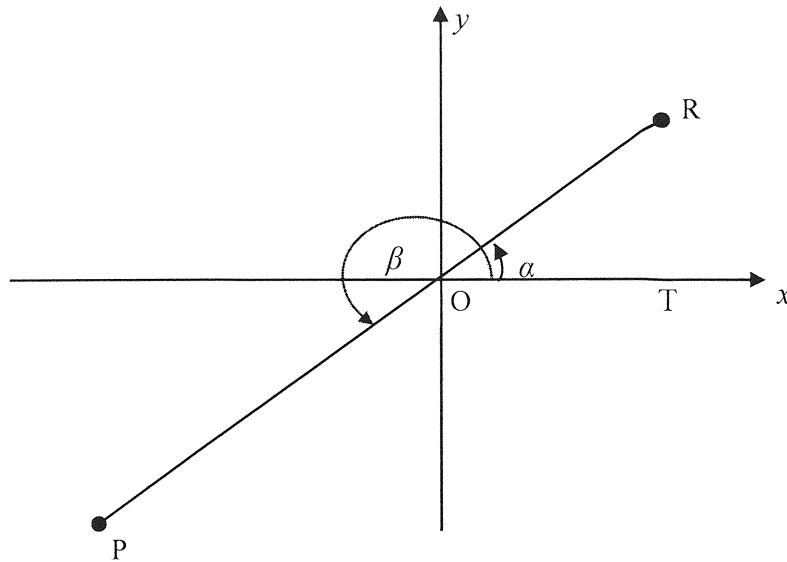




**QUESTION/VRAAG 5**

	<i>Solution/Oplossing</i>	<b>Marks Punte</b>
5.1		(6)
5.2		(6)





	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
5.3.1		(3)
5.3.2		(3)
5.3.3		(4)



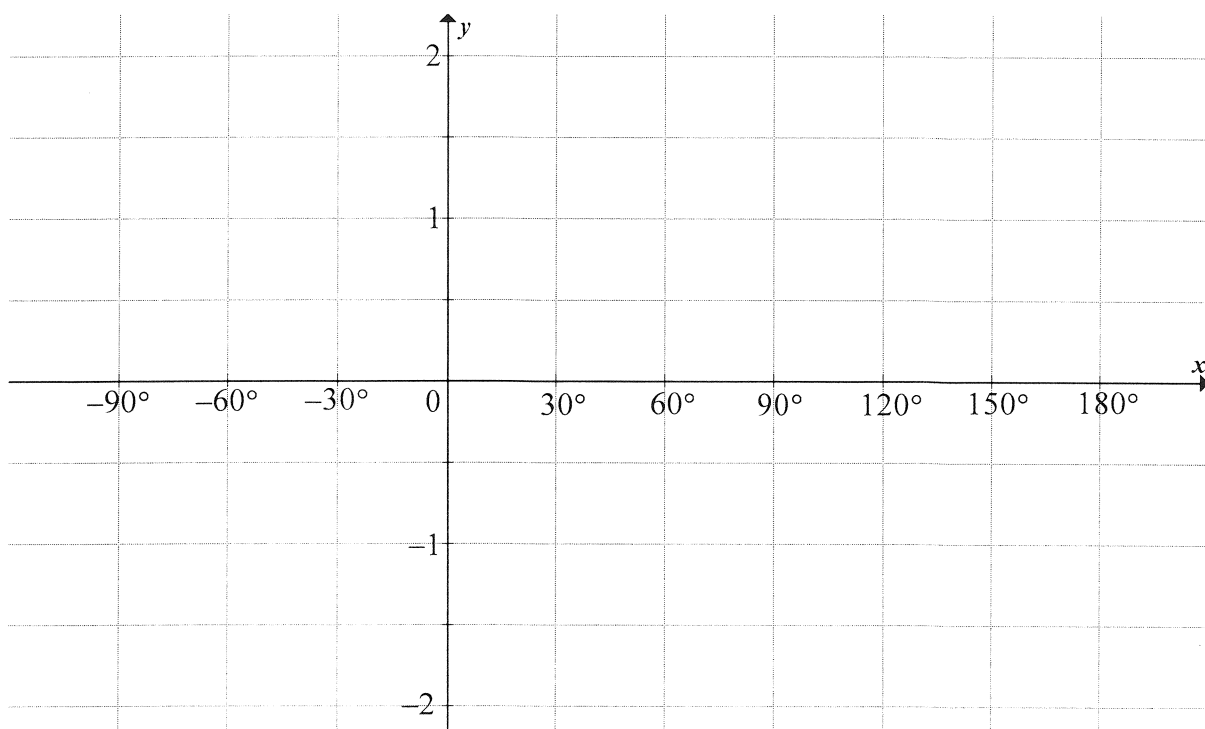
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
5.4		
		(4)
		[26]

<b>Additional space/Bykomende ruimte</b>		
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>



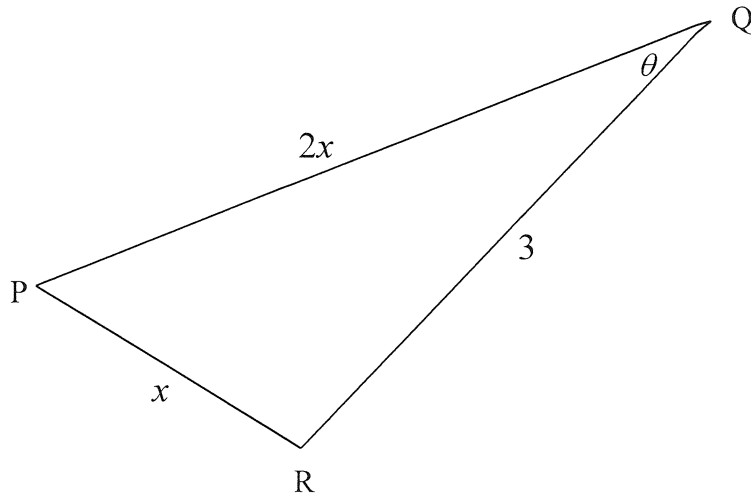
**QUESTION/VRAAG 6**

	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
6.1		
6.2.1		(5)
6.2.2		(1)
6.2.3		(2)
6.2.3		(5)



	Solution/Oplissing	Marks Punte
6.2.4		(3)
		[16]

**QUESTION/VRAAG 7**



	Solution/Oplissing	Marks Punte
7.1		(3)
7.2.1		(3)

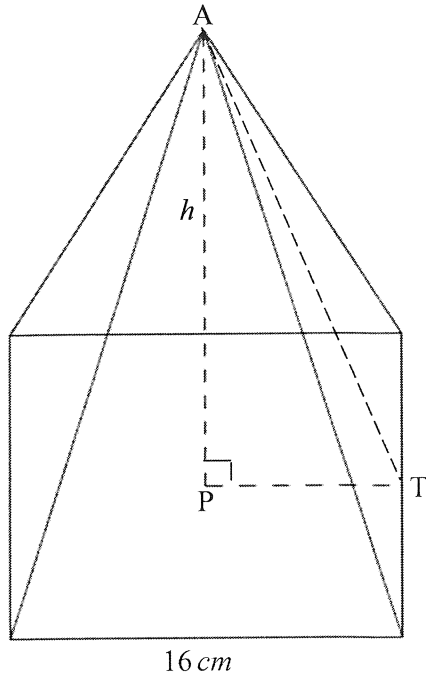


	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
7.2.2		
		(2)
7.3		
		(4)
		<b>[12]</b>

<b>Additional space/Bykomende ruimte</b>		
	<b>Solution/Oplissing</b>	<b>Marks Punte</b>



**QUESTION/VRAAG 8**



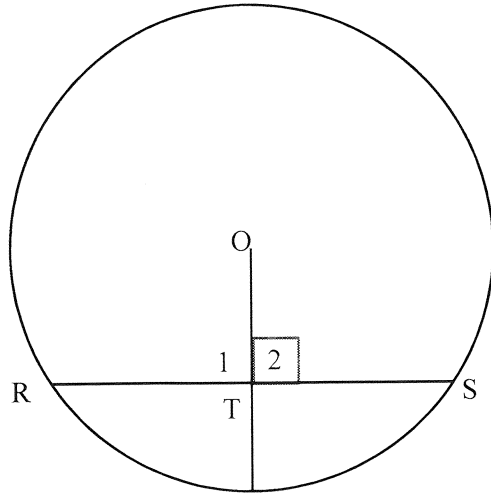
<p>Volume of pyramid = <math>\frac{1}{3} Ah</math></p>
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	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
8.1		(2)
8.2		(4)
	<b>[6]</b>	



Give reasons for your statements and calculations in QUESTIONS 9, 10, 11 and 12.  
 Gee redes vir jou bewerings en berekeninge in VRAAG 9, 10, 11 en 12.

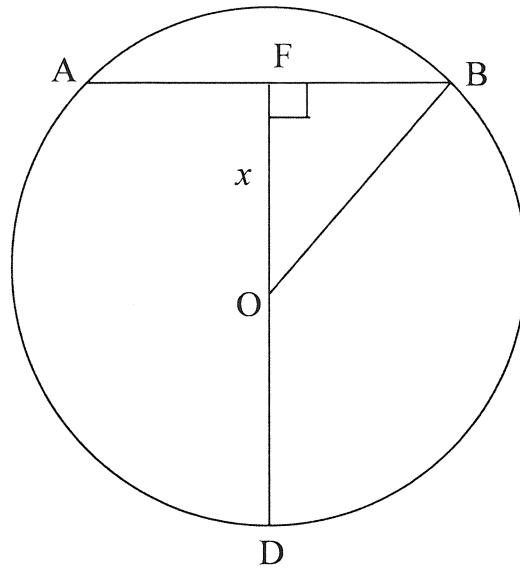
**QUESTION/VRAAG 9**



	Solution/Oplissing	Marks Punte
9.1	<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>	(5)



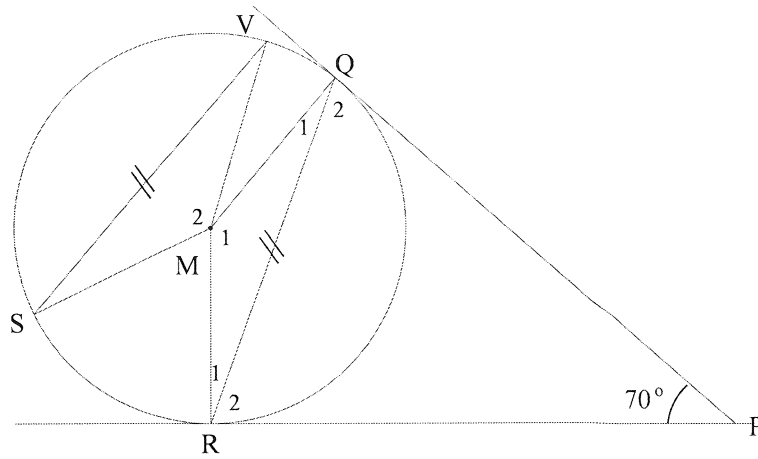




	Solution/Oplissing	Marks Punte
9.2		
		(5)
		[10]



**QUESTION/VRAAG 10**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
10.1		(4)
10.2		(2)



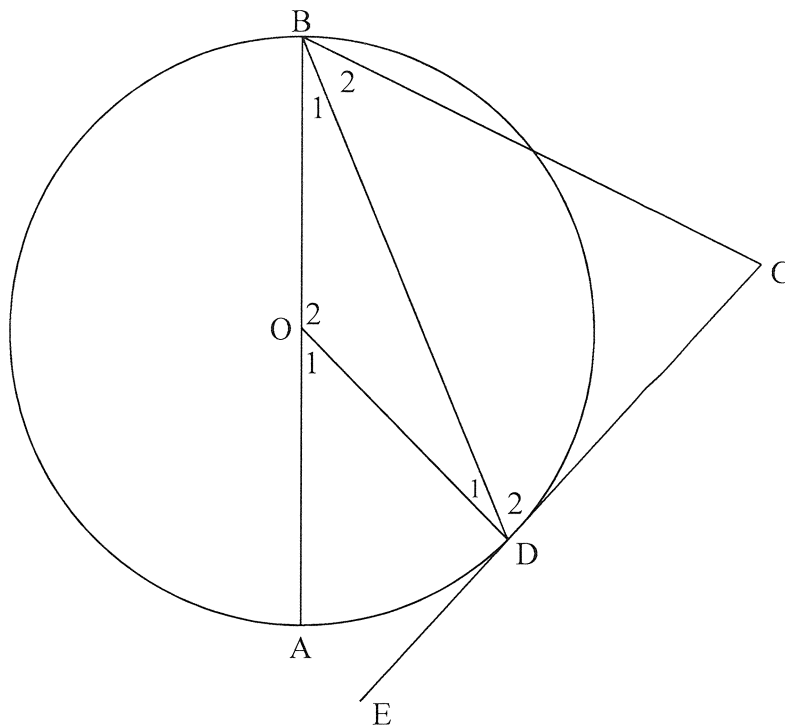
	<i>Solution/Oplossing</i>	<b>Marks</b> <i>Punte</i>
10.3		
		(3)
		[9]

**Additional Space/Bykomende Ruimte**

	<i>Solution/Oplossing</i>	<b>Marks</b> <i>Punte</i>



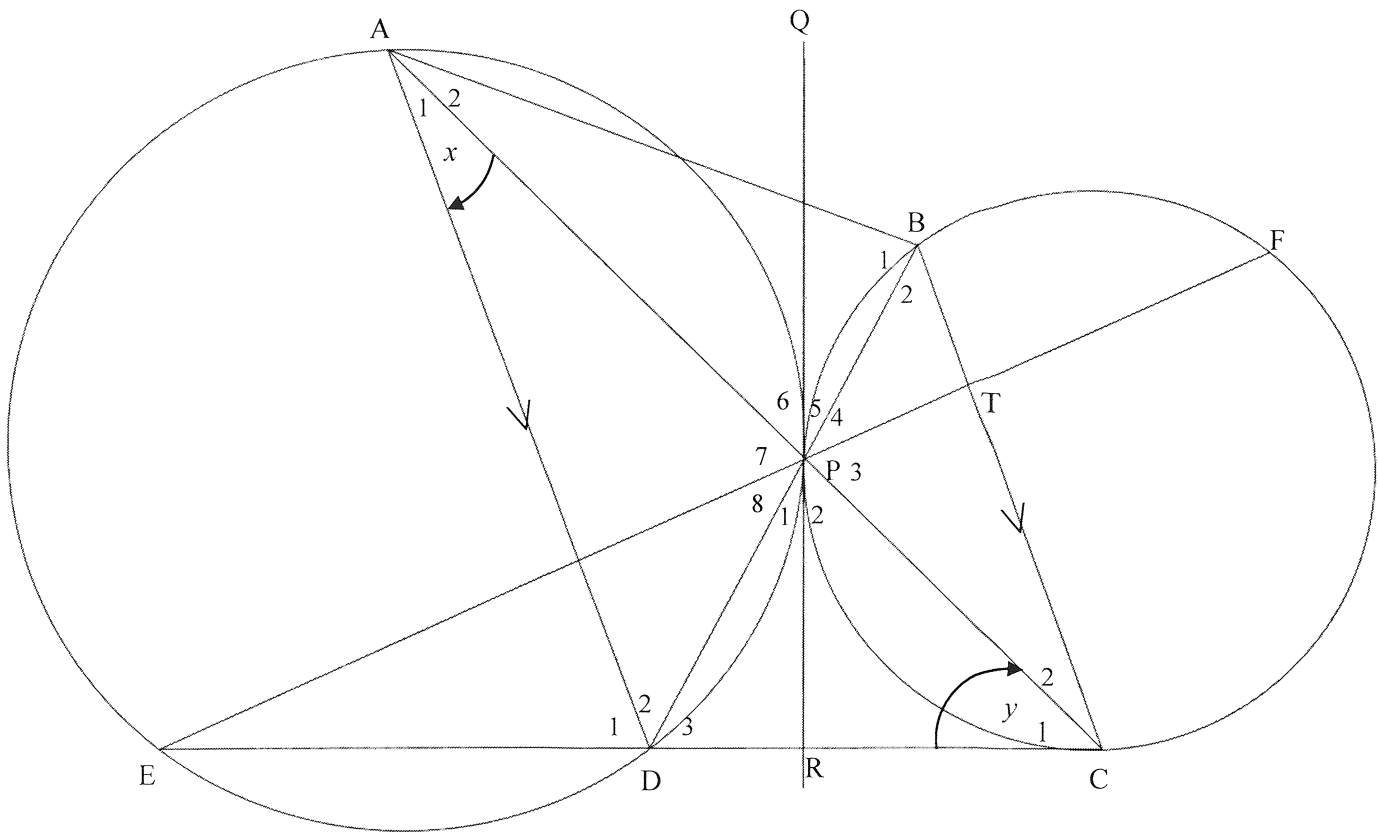
**QUESTION/VRAAG 11**



	<i>Solution/Oplossing</i>	<b>Marks Punte</b>
11.1		(4)
11.2		(3)
		<b>[7]</b>



**QUESTION/VRAAG 12**



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
12.1	<div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div>	(7)



	<b>Solution/Oplissing</b>	<b>Marks Punte</b>
12.2		
12.3		
		(4)
		(4)
		[15]

**TOTAL/TOTAAL: 150**





