

NAME OF LEARNER:**NAAM VAN LEERDER:****CLASS:****KLAS:**

NATIONAL SENIOR CERTIFICATE
NASIONALE SENIOR SERTIFIKAAT

MATHEMATICS P2/WISKUNDE V2

GRADE/GRAAD 11

NOVEMBER 2016

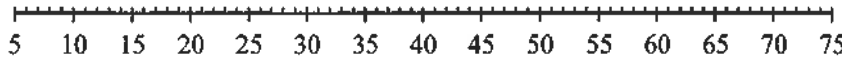
SPECIAL ANSWER BOOK
SPESIALE ANTWOORDEBOEK

QUESTION VRAAG	MARK PUNT			INITIAL PARAAF	MODERATION MODERERING			INITIAL PARAAF
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
TOTAL TOTAAL (150)								

This answer book consists of 22 pages.
Hierdie antwoordeboek bestaan uit 22 bladsye.

QUESTION/VRAAG 1

5	8	15	20	25	27	31	36	75
---	---	----	----	----	----	----	----	----

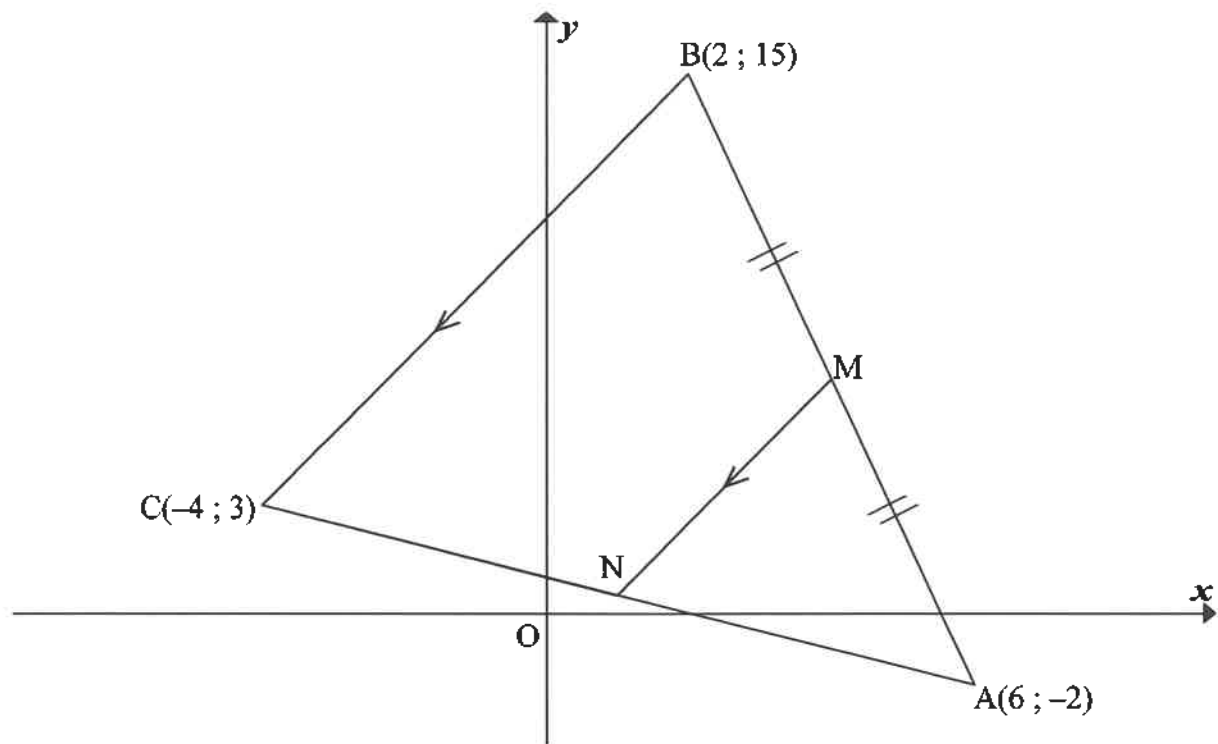
	Solution/Oplossing	Marks Punte
1.1		(1)
1.2		(2)
1.3		(1)
1.4		(3)
1.5		(3)

1.6		(1)
1.7		(1)
		[12]

QUESTION/VRAAG 2

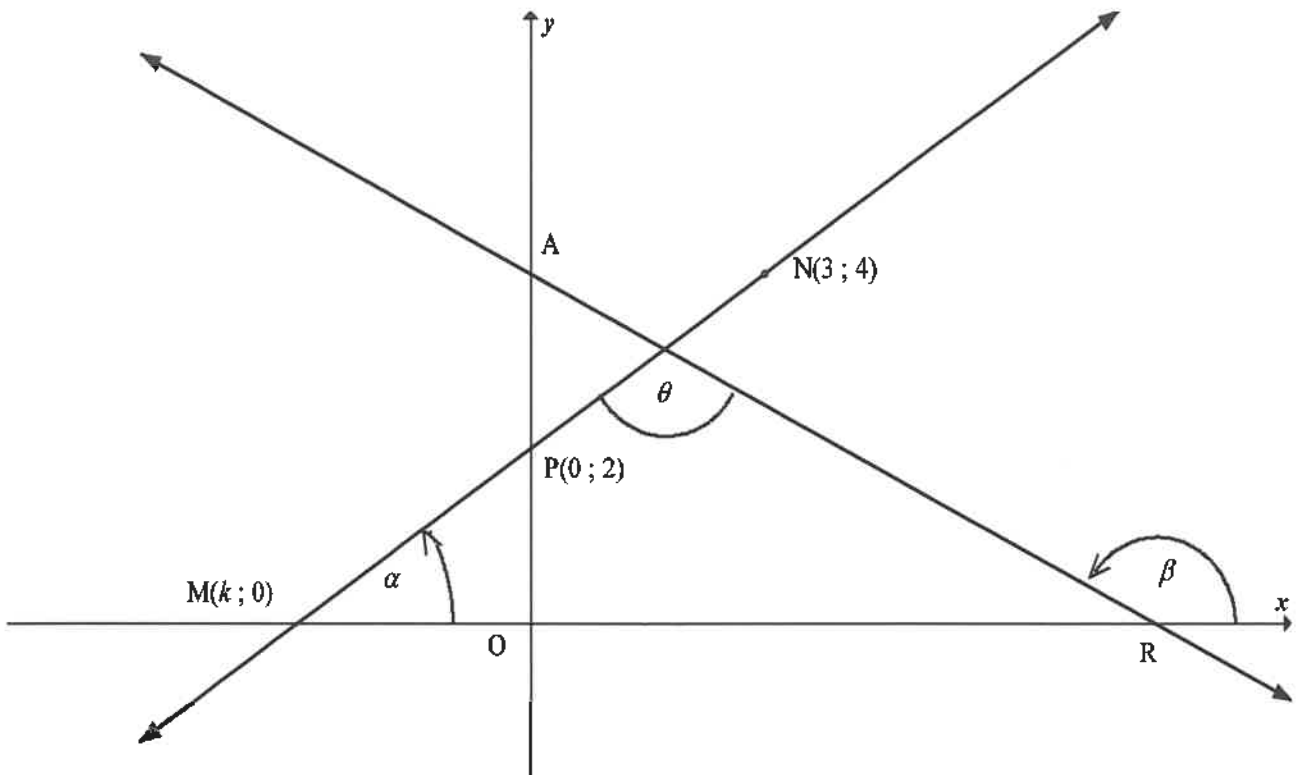
	Solution/Oplissing	Marks Punte																											
2.1	<table border="1"> <thead> <tr> <th>TIME SPENT/ TYD SPANDEER (IN MINUTES/ MINUTE)</th><th>FREQUENCY/ FREKWENSIE</th><th>CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE</th></tr> </thead> <tbody> <tr> <td>$95 < x \leq 105$</td><td>15</td><td></td></tr> <tr> <td>$105 < x \leq 115$</td><td>27</td><td></td></tr> <tr> <td>$115 < x \leq 125$</td><td>43</td><td></td></tr> <tr> <td>$125 < x \leq 135$</td><td>52</td><td></td></tr> <tr> <td>$135 < x \leq 145$</td><td>28</td><td></td></tr> <tr> <td>$145 < x \leq 155$</td><td>21</td><td></td></tr> <tr> <td>$155 < x \leq 165$</td><td>10</td><td></td></tr> <tr> <td>$165 < x \leq 175$</td><td>4</td><td></td></tr> </tbody> </table>	TIME SPENT/ TYD SPANDEER (IN MINUTES/ MINUTE)	FREQUENCY/ FREKWENSIE	CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE	$95 < x \leq 105$	15		$105 < x \leq 115$	27		$115 < x \leq 125$	43		$125 < x \leq 135$	52		$135 < x \leq 145$	28		$145 < x \leq 155$	21		$155 < x \leq 165$	10		$165 < x \leq 175$	4		(2)
TIME SPENT/ TYD SPANDEER (IN MINUTES/ MINUTE)	FREQUENCY/ FREKWENSIE	CUMULATIVE FREQUENCY/ KUMULATIEWE FREKWENSIE																											
$95 < x \leq 105$	15																												
$105 < x \leq 115$	27																												
$115 < x \leq 125$	43																												
$125 < x \leq 135$	52																												
$135 < x \leq 145$	28																												
$145 < x \leq 155$	21																												
$155 < x \leq 165$	10																												
$165 < x \leq 175$	4																												
2.2	OGIVE/OGIEF	(3)																											

2.3		(2)
2.4		(2)
		[9]

QUESTION/VRAAG 3

	Solution/Oplossing	Marks Punte
3.1		(2)
3.2		(3)

	Solution/Oplissing	Marks Punte
3.3		(2)
3.4		(4)
3.5		(4)
		[15]

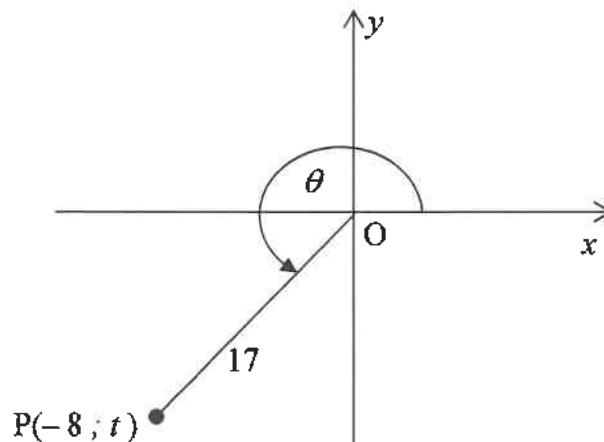
QUESTION/VRAAG 4

	Solution/Oplissing	Marks Punte
4.1		(3)
4.2		(4)

	Solution/Oplossing	Marks Punte
4.3		(3)
4.4		(3)
		[13]

QUESTION/VRAG 5

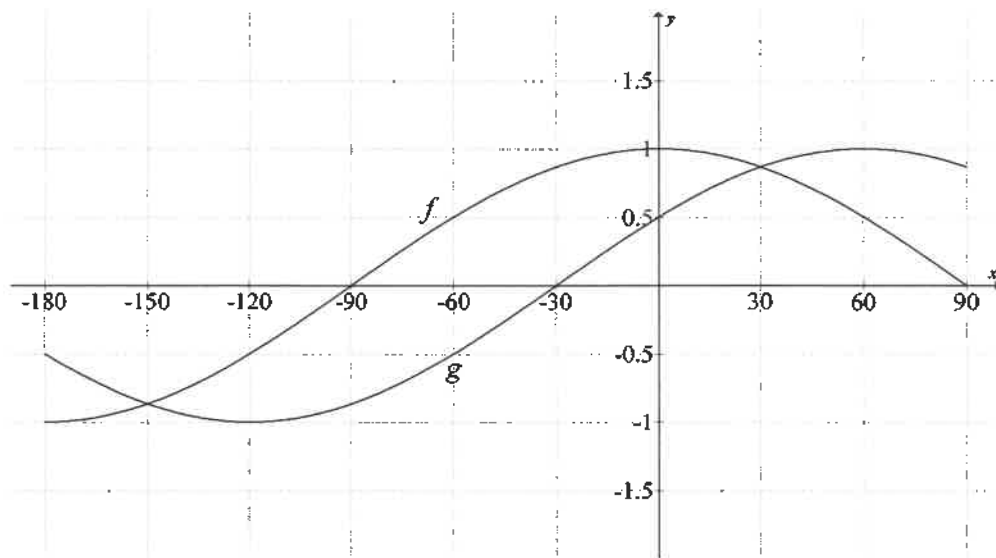
5.1



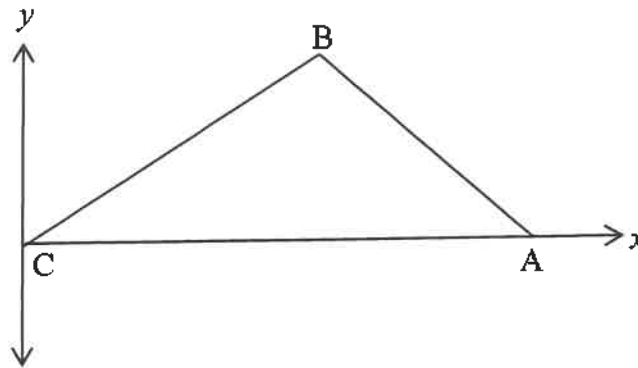
	Solution/Oplossing	Marks Punte
5.1.1		(2)
5.1.2(a)		(2)
5.1.2(b)		(2)
5.2.1		(3)

	Solution/<i>Oplossing</i>	Marks <i>Punte</i>
5.2.2		(2)
5.2.3		(4)
5.3		(6)

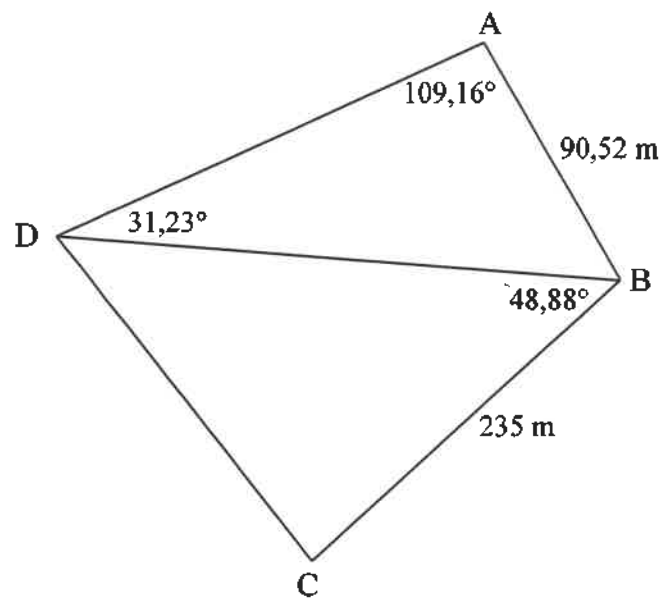
	Solution/Oplossing	Marks Punte
5.4		(4)
5.5		(6)
		[31]

QUESTION/VRAG 6

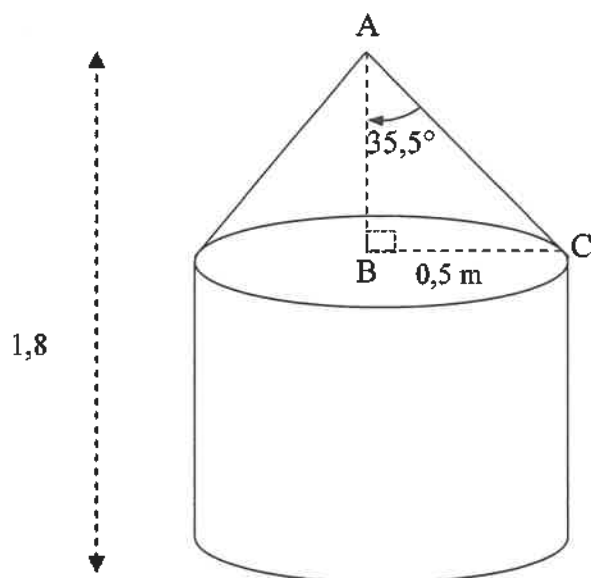
	Solution/Oplossing	Marks Punte
6.1		(1)
6.2		(1)
6.3		(2)
6.4		(3)
6.5		(2)
		[9]

QUESTION/VRAG 7

	Solution/Oplissing	Marks Punte
7.1.1		(6)
7.1.2		(4)



7.2.1		
		(3)
7.2.2		
		(3)
		[16]

QUESTION/VRAAG 8

$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

$$\text{Total surface area of cone} = \pi r^2 + \pi r s$$

$$\text{Volume of cylinder} = \pi r^2 h$$

$$\text{Total surface area of cylinder} = 2\pi r^2 + 2\pi r h$$

$$\text{Volume van keël} = \frac{1}{3} \pi r^2 h$$

$$\text{Totale oppervlakarea van keël} = \pi r^2 + \pi r s$$

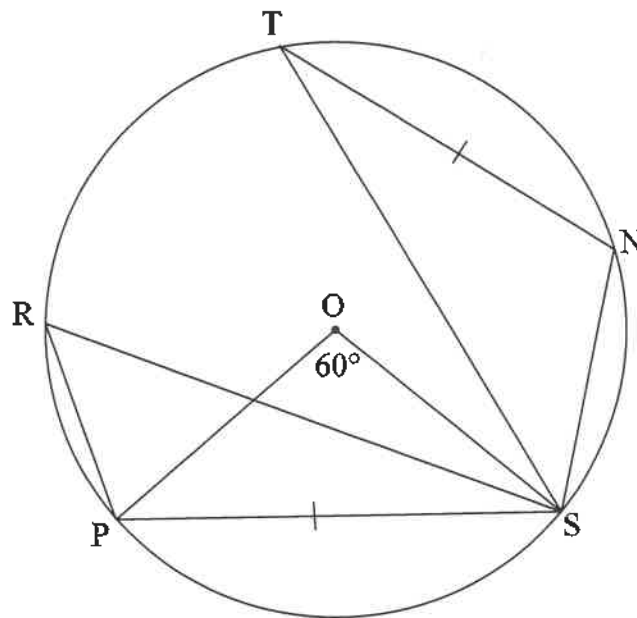
$$\text{Volume van silinder} = \pi r^2 h$$

$$\text{Totale oppervlakarea van silinder} = 2\pi r^2 + 2\pi r h$$

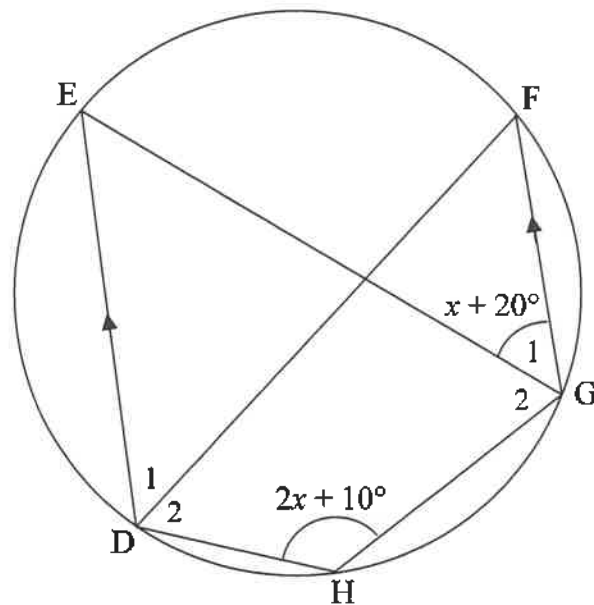
	Solution/Oplissing	Marks Punte
8.1		(2)
8.2		(4)
		[6]

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.

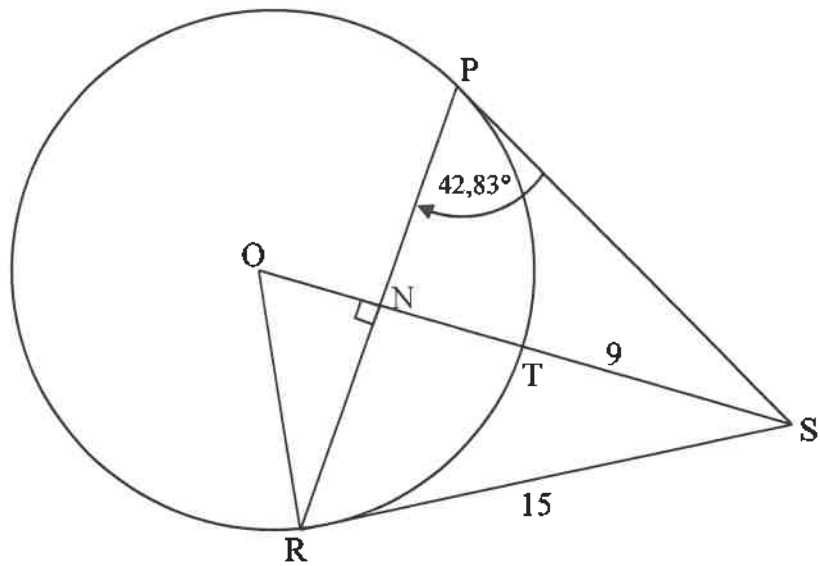
QUESTION/VRAAG 9



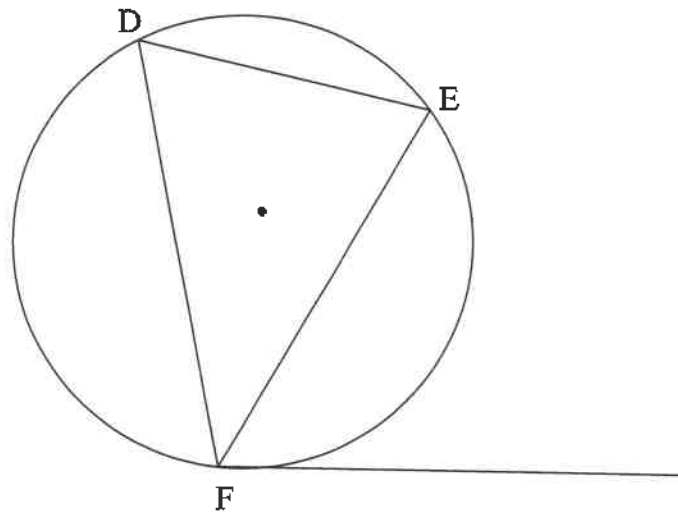
	Solution/Oplossing	Marks Punte
9.1		(2)
9.2.1		(2)
9.2.2		(2)
		[6]

QUESTION/VRAG 10

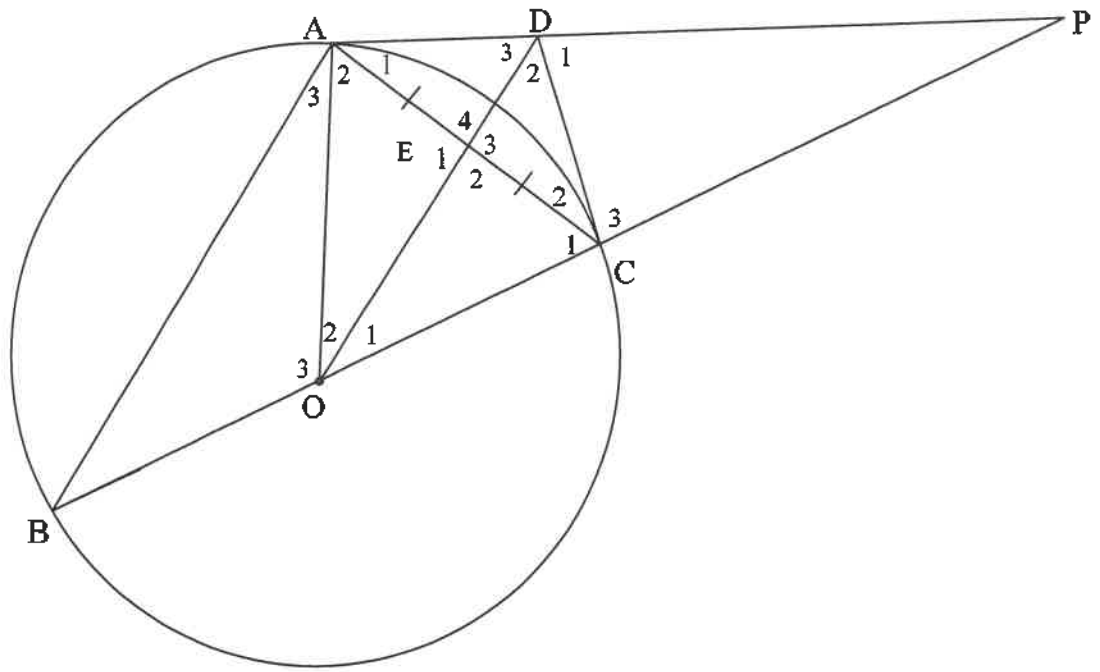
	Solution/Oplissing	Marks Punte
10.1		(2)
10.2		(4)
		[6]

QUESTION/VRAAG 11

	Solution/Oplossing	Marks Punte
11.1		(5)
11.2		(4)
		[9]

QUESTION/VRAAG 12

	Solution/Oplossing	Marks Punte
12.1		(5)



12.2.1		
		(4)
12.2.2		
		(5)
12.2.3		
		(4)
		[18]

TOTAL/TOTAAL: 150

[illegible]