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| EXAMINATION<br>NUMBER:<br><i>EKSAMENNOMMER:</i> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CENTRE NUMBER:<br><i>SENTRUMNOMMER:</i>         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

**MATHEMATICS P2/*WISKUNDE V2***

**GRADE/*GRAAD* 12**

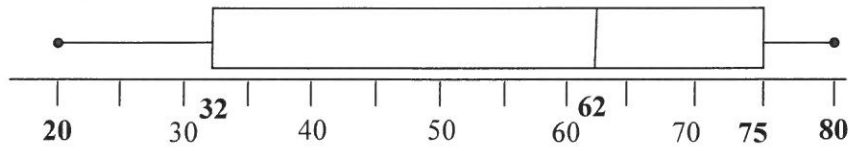
**FEBRUARY/*MARCH*/FEBRUARIE/*MAART* 2016**

|   |
|---|
| <p><b>SPECIAL ANSWER BOOK/<br/> <i>SPESIALE ANTWOORDEBOEK</i></b></p> |
|---|

| QUESTION/<br><i>VRAAG</i>        | MARK/<br><i>PUNT</i> | INITIAL/<br><i>PARAAF</i> | MOD. | REMARK/<br><i>PUNT</i> | INITIAL/<br><i>PARAAF</i> |
|----------------------------------|----------------------|---------------------------|------|------------------------|---------------------------|
| 1                                |                      |                           |      |                        |                           |
| 2                                |                      |                           |      |                        |                           |
| 3                                |                      |                           |      |                        |                           |
| 4                                |                      |                           |      |                        |                           |
| 5                                |                      |                           |      |                        |                           |
| 6                                |                      |                           |      |                        |                           |
| 7                                |                      |                           |      |                        |                           |
| 8                                |                      |                           |      |                        |                           |
| 9                                |                      |                           |      |                        |                           |
| 10                               |                      |                           |      |                        |                           |
| TOTAL/<br><i>TOTAAL</i><br>(150) |                      |                           |      |                        |                           |

This answer book consists of 25 pages./  
*Hierdie antwoordeboek bestaan uit 25 bladsye.*

**QUESTION/VRAAG 1**

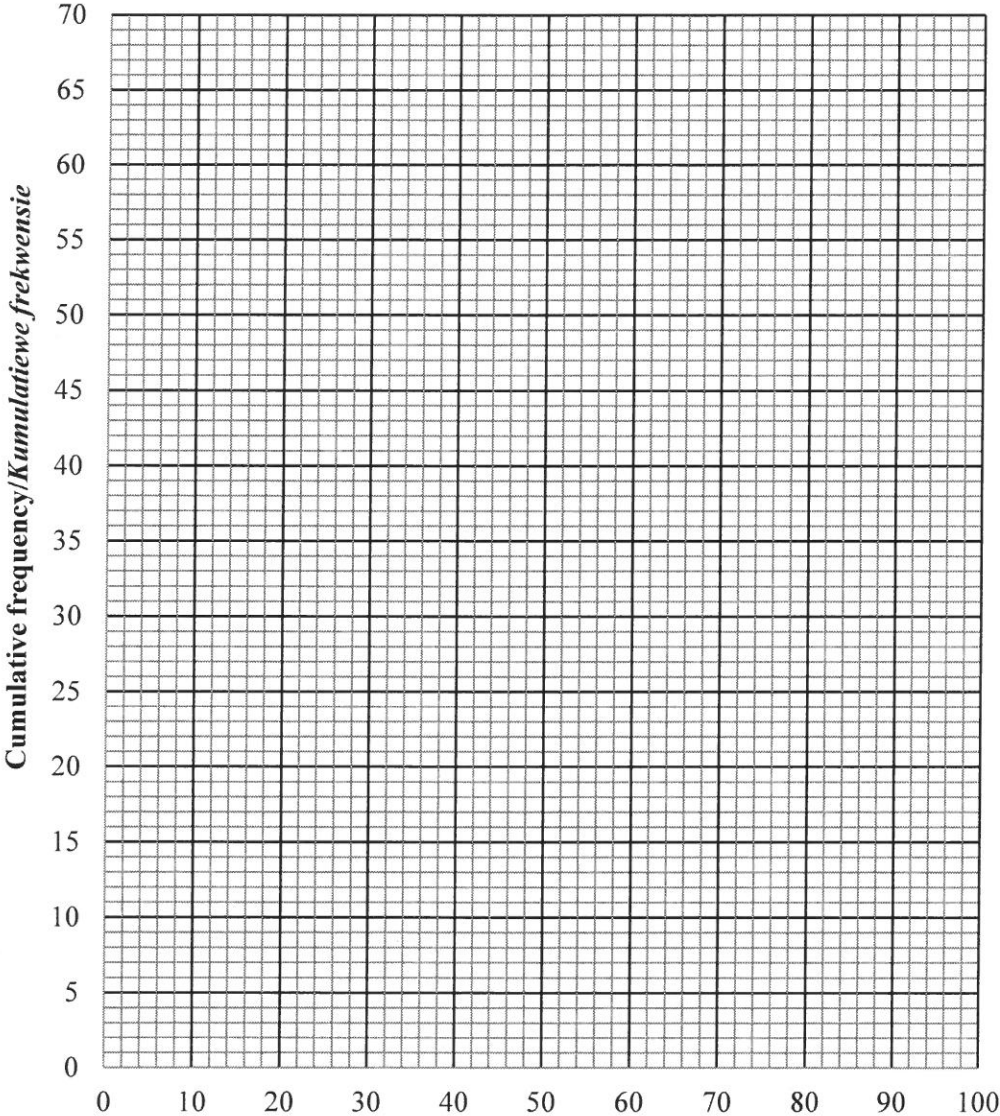


|     | <b>Solution/Oplissing</b>   | <b>Marks/Punte</b> |    |    |    |  |    |  |  |  |     |
|-----|---|--------------------|----|----|----|--|----|--|--|--|-----|
| 1.1 |   | (1)                |    |    |    |  |    |  |  |  |     |
| 1.2 |   | (2)                |    |    |    |  |    |  |  |  |     |
| 1.3 |   | (2)                |    |    |    |  |    |  |  |  |     |
| 1.4 | <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;">28</td> <td style="width: 10%;">36</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;">69</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table> |                    | 28 | 36 |    |  | 69 |  |  |  | (6) |
|     | 28  | 36                 |    |    | 69 |  |    |  |  |  |     |
|     |   | <b>[11]</b>        |    |    |    |  |    |  |  |  |     |

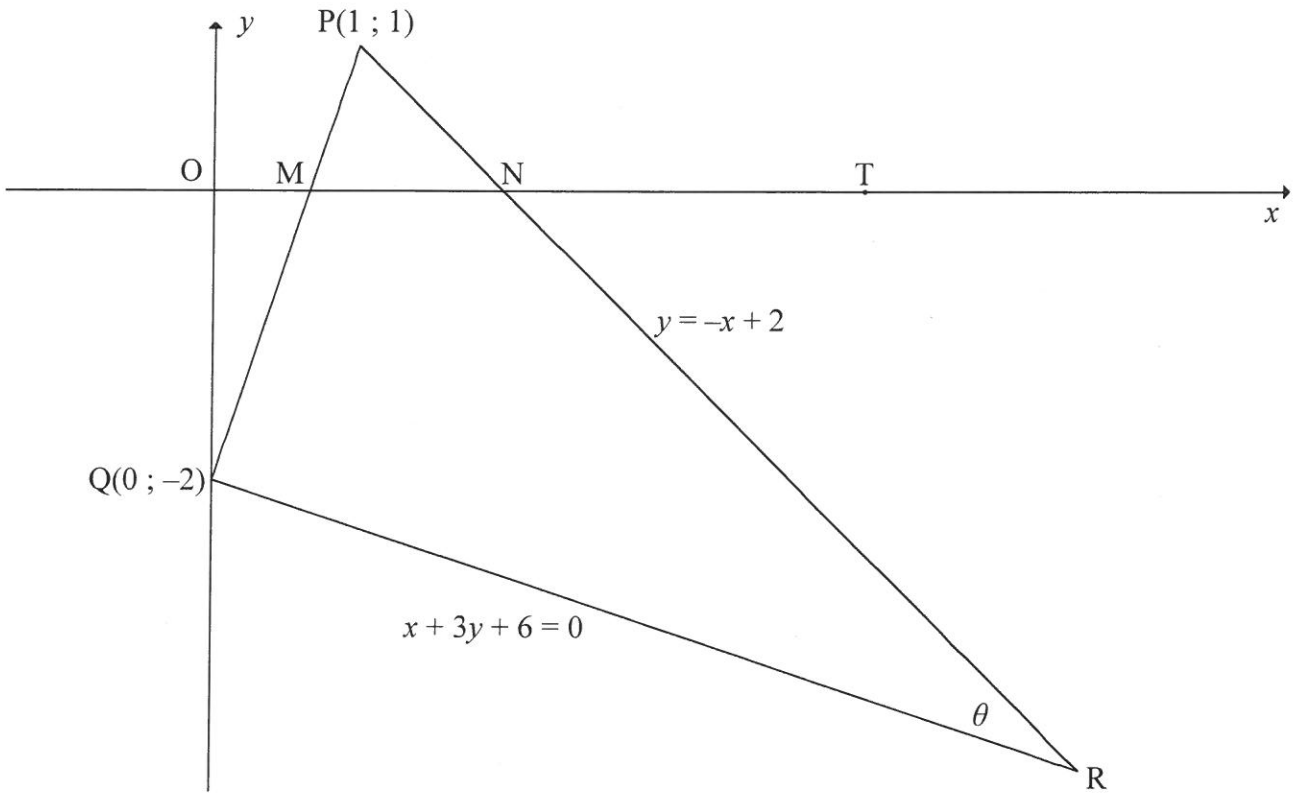
## QUESTION/VRAAG 2

| NUMBER OF MESSAGES/<br><i>GETAL BOODSKAPPE</i> | NUMBER OF DAYS/<br><i>GETAL DAE</i> |
|--|-------------------------------------|
| $10 < x \leq 20$                               | 2                                   |
| $20 < x \leq 30$                               | 8                                   |
| $30 < x \leq 40$                               | 5                                   |
| $40 < x \leq 50$                               | 10                                  |
| $50 < x \leq 60$                               | 12                                  |
| $60 < x \leq 70$                               | 18                                  |
| $70 < x \leq 80$                               | 3                                   |
| $80 < x \leq 90$                               | 2                                   |

|     | <i>Solution/Oplissing</i> | <b>Marks/<br/>Punte</b> |
|-----|---------------------------|-------------------------|
| 2.1 |                           | (3)                     |
|     |                           |                         |
|     |                           |                         |
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|     |                           |                         |
|     |                           |                         |
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|     | Solution/Oplissing  | Marks/Punte |
|-----|---|-------------|
| 2.2 | <p style="text-align: center;"><b>OGIVE/OGIEF</b></p>  | (4)         |
| 2.3 | <hr/> <hr/> <hr/> <hr/>   | (2)         |
|     |   | <b>[9]</b>  |

**QUESTION/VRAAG 3**



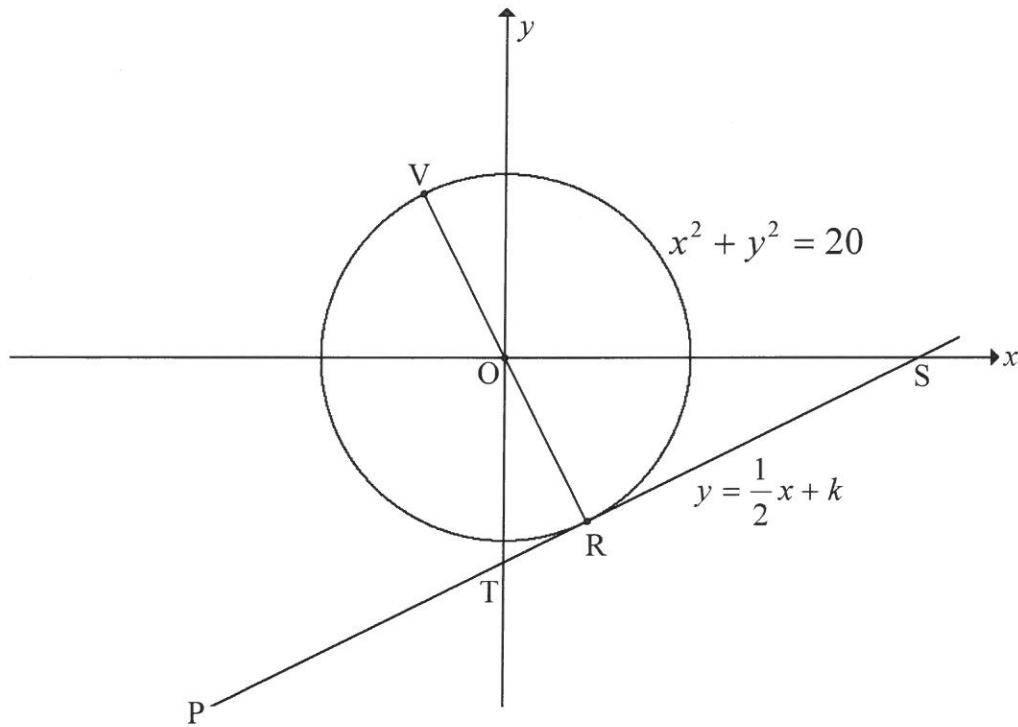
|     | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|-----|---------------------------|--------------------|
| 3.1 |                           | (2)                |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
| 3.2 |                           | (2)                |
|     |                           |                    |
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|     | <b>Solution/Oplossing</b> | <b>Marks/<br/>Punte</b> |
|-----|---------------------------|-------------------------|
| 3.3 |                           | (3)                     |
| 3.4 |                           | (2)                     |
| 3.5 |                           | (6)                     |
| 3.6 |                           | (3)                     |

|     | <b>Solution/Oplossing</b> | <b>Marks/<br/>Punte</b> |
|-----|---------------------------|-------------------------|
| 3.7 |                           |                         |
|     |                           | (5)<br>[23]             |

|  | <b>Additional space/Bykomende ruimte</b> | <b>Marks/<br/>Punte</b> |
|--|--|-------------------------|
|  |  |                         |

**QUESTION/VRAAG 4**



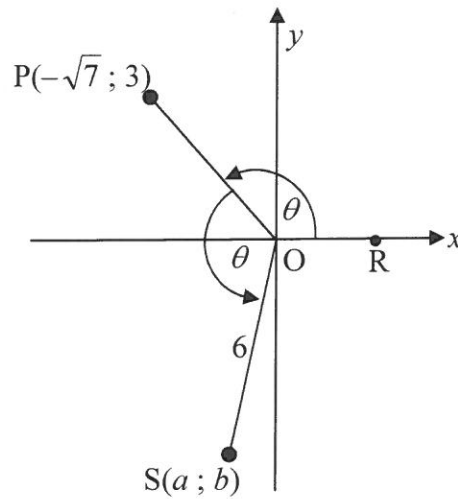
|     | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|-----|---------------------------|--------------------|
| 4.1 |                           | (3)                |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
| 4.2 |                           | (4)                |
|     |                           |                    |
|     |                           |                    |
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|     | <b>Solution/Oplossing</b> | <b>Marks/<br/>Punte</b> |
|-----|---------------------------|-------------------------|
| 4.3 |                           |                         |
| 4.4 |                           | (6)                     |
|     |                           | (4)<br>[17]             |

**QUESTION/VRAAG 5**

5.1



|       | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|-------|---------------------------|--------------------|
| 5.1.1 |                           | (1)                |
| 5.1.2 |                           | (3)                |
| 5.1.3 |                           | (4)                |

|       | <b>Solution/Oplossing</b> | <b>Marks/Punte</b> |
|-------|---------------------------|--------------------|
| 5.2.1 |                           | (3)                |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
| 5.2.2 |                           | (2)                |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
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|       |                           |                    |
|       |                           |                    |
|       |                           | [13]               |

|  | <b>Additional space/Bykomende ruimte</b> | <b>Marks/Punte</b> |
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**QUESTION/VRAAG 6**

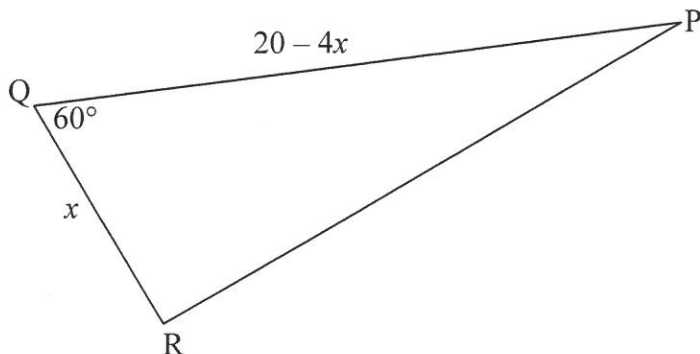
|     | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|-----|---------------------------|--------------------|
| 6.1 |                           |                    |
|     |                           |                    |
|     |                           |                    |
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|     |                           |                    |
| 6.2 |                           | (4)                |
|     |                           |                    |
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|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
|     |                           |                    |
|     | (3)                       |                    |

|       | Solution/Oplissing                              | Marks/Punte |
|-------|---|-------------|
| 6.3.1 |   | (3)         |
| 6.3.2 | <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> | (3)         |
|       |   | <b>[13]</b> |

|  | Additional space/Bykomende ruimte                           | Marks/Punte |
|--|---|-------------|
|  | <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> |             |

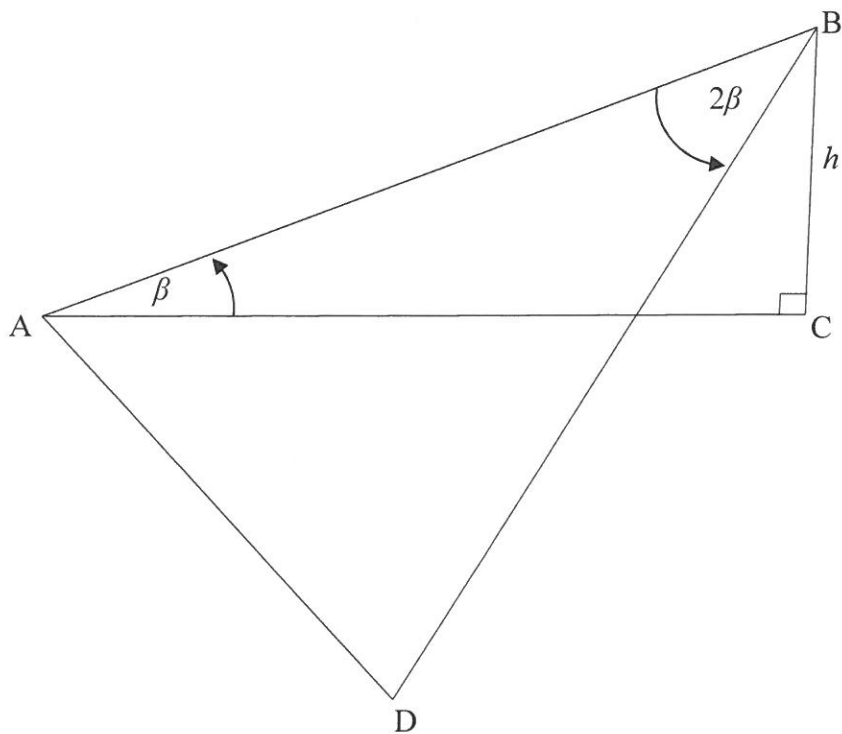
**QUESTION/VRAAG 7**

7.1



|       | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|-------|---------------------------|--------------------|
| 7.1.1 |                           | (2)                |
| 7.1.2 |                           | (3)                |
| 7.1.3 |                           | (3)                |

7.2

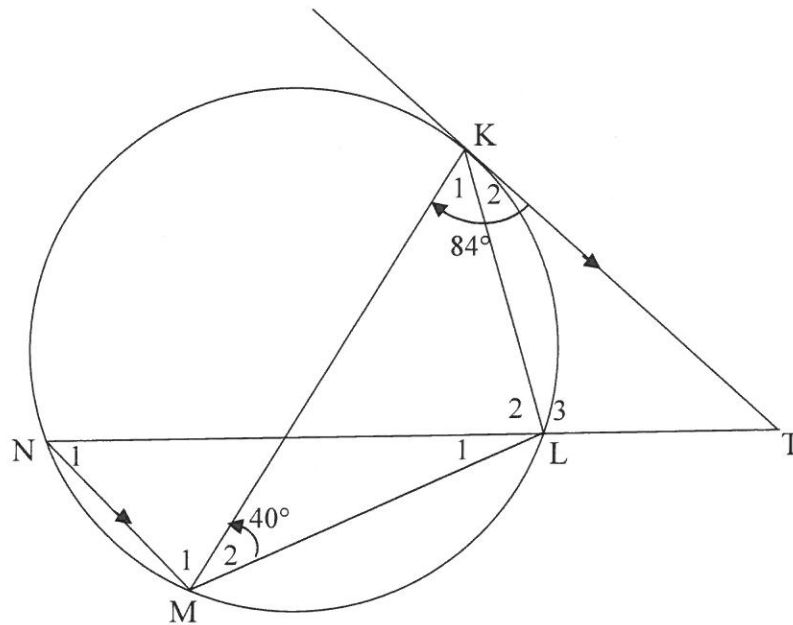


|  | Solution/Oplissing | Marks/Punte |
|--|--------------------|-------------|
|  |                    |             |
|  |                    | (7)         |
|  |                    | [15]        |

Give reasons for ALL statements in QUESTIONS 8, 9 and 10.  
 Gee redes vir ALLE bewerings in VRAAG 8, 9 en 10.

QUESTION/VRAAG 8

8.1



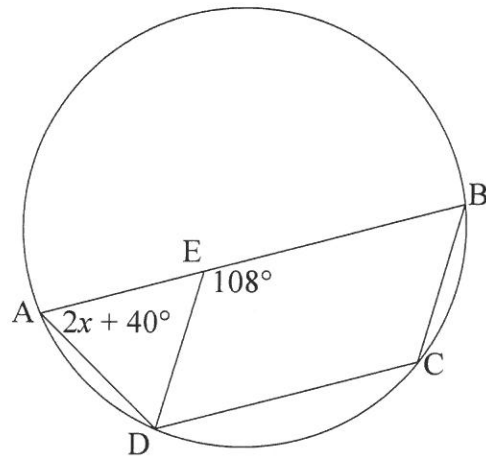
|       | Solution/Oplissing | Marks/Punte |
|-------|--------------------|-------------|
| 8.1.1 |                    | (2)         |
| 8.1.2 |                    | (3)         |
| 8.1.3 |                    | (2)         |



|       | <b>Solution/Oplossing</b> | <b>Marks/Punte</b> |
|-------|---------------------------|--------------------|
| 8.1.4 |                           | (2)                |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
|       |                           |                    |
| 8.1.5 |                           | (1)                |
|       |                           |                    |
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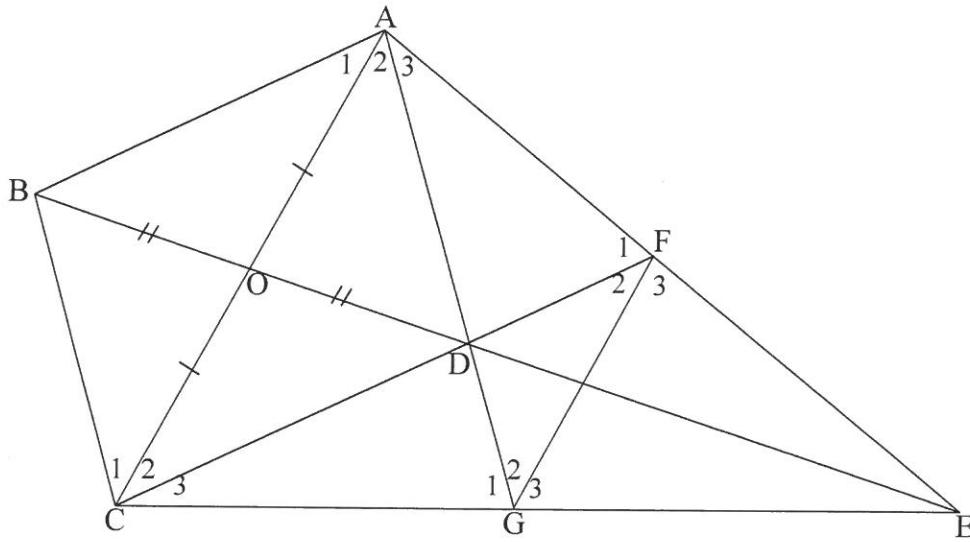
|  | <b>Additional space/Bykomende ruimte</b> | <b>Marks/Punte</b> |
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8.2



|     | Solution/Oplissing | Marks/<br>Punte |
|-----|--------------------|-----------------|
| 8.2 |                    |                 |
|     |                    | (5)<br>[15]     |

**QUESTION/VRAAG 9**



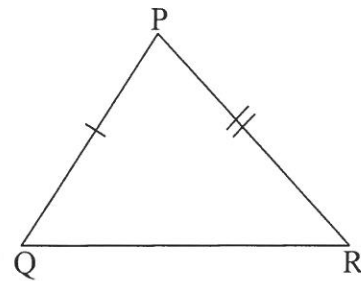
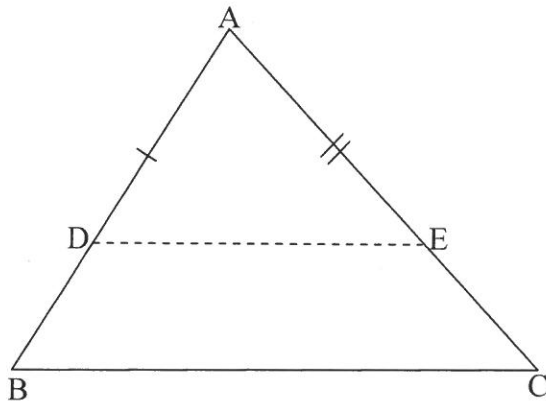
|     | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|-----|---------------------------|--------------------|
| 9.1 |                           | (1)                |
| 9.2 |                           | (4)                |
| 9.3 |                           | (5)                |

|     | <b>Solution/Oplossing</b> | <b>Marks/<br/>Punte</b> |
|-----|---------------------------|-------------------------|
| 9.4 |                           |                         |
|     |                           |                         |
|     |                           |                         |
|     |                           |                         |
|     |                           |                         |
|     |                           |                         |
|     |                           |                         |
|     |                           |                         |
|     |                           | <b>[13]</b>             |

|  | <b>Additional space/Bykomende ruimte</b> | <b>Marks/<br/>Punte</b> |
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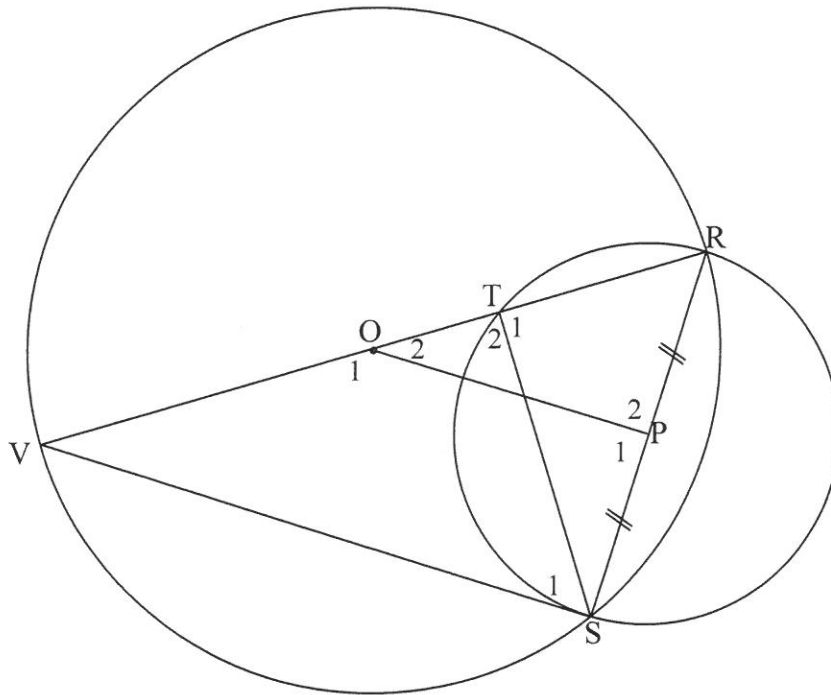
**QUESTION/VRAAG 10**

10.1



|        | <b>Solution/Oplissing</b> | <b>Marks/Punte</b> |
|--------|---------------------------|--------------------|
| 10.1.1 |                           | (2)                |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
| 10.1.2 |                           | (3)                |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
| 10.1.3 |                           | (2)                |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |
|        |                           |                    |

10.2



|        | <b>Solution/Oplissing</b> | <b>Marks/<br/>Punte</b> |
|--------|---------------------------|-------------------------|
| 10.2.1 |                           | (1)                     |
| 10.2.2 |                           | (4)                     |

|        | <b>Solution/Oplossing</b> | <b>Marks/<br/>Punte</b> |
|--------|---------------------------|-------------------------|
| 10.2.3 |                           |                         |
| 10.2.4 |                           |                         |
|        |                           | (6)<br><b>[21]</b>      |





