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| Year  9 | | | Mathematics Test  Representing Data | |  |
|  | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper.  Calculators are allowed for this section. | | | | |
| 1. |  | Theodore collects data on the use of the internet by his family. The table below shows the results of his research.     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Type of Use. | Social Media | Homework | Games | Research | Email | | Number of hours. | 12 | 6 | 9 | 4 | 5 | | Fraction of total hours. |  |  |  |  |  | | | | |
|  | (a)  2 marks | Complete the third row of the table above, which shows the fraction of the total time which was spent on that type of use. | | | |
| (b)  3 marks | Complete the sector graph which has been started to represent the data that Theodore collected. | | | |
| 2. |  | Mahta records the temperature at midday at her home over a period of a fortnight.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Day | Mon | Tue | Wed | Thu | Fri | Sat | Sun | Mon | Tue | Wed | Thu | Fri | Sat | Sun | | Temp | 26o | 24 o | 25 o | 36 o | 38 o | 41 o | 32 o | 25 o | 22 o | 27 o | 18 o | 23 o | 32 o | 18 o | | | | |
|  | a)  3 marks | Use the grid below to draw a line graph of the information above. | | | |
| b)  1 mark | A heatwave occurred during the fortnight. On what day did the midday temperature first rise above 35o and for how many days was it above 35o?  .....................................................................................................................................................    .................................................................................................................................................... | | | |
| (c)  1 mark | What was the temperature range over the fortnight?  ....................................................................................................................................................    .................................................................................................................................................... | | | |

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| 3. |  | Latitha records the points scored by her favourite football team over the period of a season.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 16 | 24 | 12 | 9 | 35 | | 45 | 55 | 23 | 32 | 15 | | 23 | 42 | 23 | 18 | 16 | | 28 | 15 | 17 | 25 | 6 | | 34 | 26 | 9 | 38 | 48 | |
|  | (a)  2 marks | Record the data in a stem and leaf plot.   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Stem | Leaves | | | | | | | | 0 |  |  |  |  |  |  |  | | 1 |  |  |  |  |  |  |  | | 2 |  |  |  |  |  |  |  | | 3 |  |  |  |  |  |  |  | | 4 |  |  |  |  |  |  |  | | 5 |  |  |  |  |  |  |  | |
| (b)  1 mark | What was the range of the scores?  ..................................................................................................................................................... |
| (c)  1 mark | What was the modal score?  ..................................................................................................................................................... |
| 4. |  | A clothing store records the number of articles bought by its customers in a day. The results are shown below..   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 6 | 4 | 2 | 7 | 8 | | 4 | 8 | 3 | 2 | 1 | | 2 | 4 | 2 | 1 | 6 | | 2 | 2 | 1 | 4 | 6 | | 3 | 3 | 4 | 3 | 4 | |
|  | (a)  2 marks | Record the data in a dot plot.     |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| (b)  1 mark | What was the range of the scores?  ..................................................................................................................................................... |
| 3. |  | Harry records his scores in the cricket games over a season.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 9 | 34 | 22 | 19 | 23 | | 45 | 35 | 23 | 102 | 45 | | 8 | 42 | 56 | 34 | 76 | | 28 | 65 | 17 | 35 | 16 | |
|  | (a)  2 marks | Record his scores on the frequency table below.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Class | Tally | Class Centre | Frequency | Cumulative Frequency | | 0 – 19 |  |  |  |  | | 20 – 39 |  |  |  |  | | 40 – 59 |  |  |  |  | | 60 – 79 |  |  |  |  | | 80 - 99 |  |  |  |  | | 100 - 119 |  |  |  |  | |
| (b)  3 marks | Draw a frequency histogram and polygon from the data. |
| (c)  3 marks | Draw a cumulative frequency histogram and ogive from the data. |

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| Year  9 | | | Mathematics Test  Representing Data | | Answers |
|  | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper.  Calculators are allowed for this section. | | | | |
| 1. |  | Theodore collects data on the use of the internet by his family. The table below shows the results of his research.     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Type of Use. | Social Media | Homework | Games | Research | Email | | Number of hours. | 12 | 6 | 9 | 4 | 5 | | Fraction of total hours. |  |  |  |  |  | | | | |
|  | (a)  2 marks | Complete the third row of the table above, which shows the fraction of the total time which was spent on that type of use. | | | |
| (b)  3 marks | Complete the sector graph which has been started to represent the data that Theodore collected. | | | |
| 2. |  | Mahta records the temperature at midday at her home over a period of a fortnight.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Day | Mon | Tue | Wed | Thu | Fri | Sat | Sun | Mon | Tue | Wed | Thu | Fri | Sat | Sun | | Temp | 26o | 24 o | 25 o | 36 o | 38 o | 41 o | 32 o | 25 o | 22 o | 27 o | 18 o | 23 o | 32 o | 18 o | | | | |
|  | a)  3 marks | Use the grid below to draw a line graph of the information above. | | | |
| b)  1 mark | A heatwave occurred during the fortnight. On what day did the midday temperature first rise above 35o and for how many days was it above 35o?  On the First Thursday it first rose above 35, and it remained there for another 2 days.  (3 days in all.) | | | |
| (c)  1 mark | What was the temperature range over the fortnight?  Temperature range was from 18o to 41o, a range of 23o. | | | |

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| 3. |  | Latitha records the points scored by her favourite football team over the period of a season.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 16 | 24 | 12 | 9 | 35 | | 45 | 55 | 23 | 32 | 15 | | 23 | 42 | 23 | 18 | 16 | | 28 | 15 | 17 | 25 | 6 | | 34 | 26 | 9 | 38 | 48 | |
|  | (a)  2 marks | Record the data in a stem and leaf plot.   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Stem | Leaves | | | | | | | | 0 | 9 | 6 | 9 |  |  |  |  | | 1 | 6 | 2 | 5 | 8 | 6 | 5 | 7 | | 2 | 4 | 3 | 3 | 3 | 8 | 5 | 6 | | 3 | 5 | 2 | 4 | 8 |  |  |  | | 4 | 5 | 2 | 8 |  |  |  |  | | 5 | 5 |  |  |  |  |  |  | |
| (b)  1 mark | What was the range of the scores?  Range = 55 – 6 = 49. |
| (c)  1 mark | What was the modal score?  Mode = 23 |
| 4. |  | A clothing store records the number of articles bought by its customers in a day. The results are shown below..   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 6 | 4 | 2 | 7 | 8 | | 4 | 8 | 3 | 2 | 1 | | 2 | 4 | 2 | 1 | 6 | | 2 | 2 | 1 | 4 | 6 | | 3 | 3 | 4 | 3 | 4 | |
|  | (a)  2 marks | Record the data in a dot plot.     |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | |  | O |  | O |  |  |  |  | |  | O |  | O |  |  |  |  | |  | O | O | O |  |  |  |  | | O | O | O | O |  | O |  |  | | O | O | O | O |  | O |  | O | | O | O | O | O |  | O | O | O | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| (b)  1 mark | What was the range of the scores?  Range = 8 – 1 = 7 |
| 3. |  | Harry records his scores in the cricket games over a season.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 9 | 34 | 22 | 19 | 23 | | 45 | 35 | 23 | 102 | 45 | | 8 | 42 | 56 | 34 | 76 | | 28 | 65 | 17 | 35 | 16 | |
|  | (a)  2 marks | Record his scores on the frequency table below.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Class | Tally | Class Centre | Frequency | Cumulative Frequency | | 0 – 19 | |||| | 9.5 | 5 | 5 | | 20 – 39 | |||| ||| | 29.5 | 8 | 13 | | 40 – 59 | |||| | 49.5 | 4 | 17 | | 60 – 79 | || | 69.5 | 2 | 19 | | 80 - 99 |  | 89.5 | 0 | 19 | | 100 - 119 | | | 109.5 | 1 | 20 | |
| (b)  3 marks | Draw a frequency histogram and polygon from the data. |
| (c)  3 marks | Draw a cumulative frequency histogram and ogive from the data. |