**Cumulative Frequency**

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| Name : | Class : | Date : |

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| Mark : | /14 | % |

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| **1)** Based on the frequency distribution below, find the cumulative frequency for the class with lower class limit 27   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Ages | 15 - 18 | 19 - 22 | 23 - 26 | 27 - 30 | 31 - 34 | 35 - 38 | | No. of Students | 5 | 5 | 5 | 2 | 5 | 5 | | [1] |
| **2)** 120 students took a test. The scores are summarized in the tables below. Fill in the missing value in the frequency table.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | Score | Frequency | | 200 - 219 | 15 | | 220 - 239 | 11 | | 240 - 259 | 17 | | 260 - 279 |  | | 280 - 299 | 17 | | 300 - 319 | 40 | |  | |  |  | | --- | --- | | Score | Cumulative Freq | | less than 220 | 15 | | less than 240 | 26 | | less than 260 | 43 | | less than 280 | 63 | | less than 300 | 80 | | less than 320 | 120 | | | [1] |
| **3)** The cumulative frequency polygon below shows the height of 20 trees, measured in metres.  http://www.mathster.com/course/simgs/111599085824_1.png  How many trees were less than 45 metres tall? | [1] |
| **4)** The cumulative frequency polygon below shows the height of 20 radio masts, measured in metres.  http://www.mathster.com/course/simgs/111599085824_2.png  How many radio masts were greater than 55 metres tall? | [1] |
| **5)** The cumulative frequency polygon below shows the scores of 20 students in a physics test.  http://www.mathster.com/course/simgs/111599085824_3.png  Estimate, using the graph, the number of students scoring less than 42?  (Give your answer to the nearest integer) | [1] |
| **6)** The cumulative frequency polygon below shows the scores of 20 students in a physics test.  http://www.mathster.com/course/simgs/111599085824_4.png  How many students scored more than 35 marks? | [1] |
| **7)** The cumulative frequency polygon below shows the number of minutes that 20 boys used a mobile phone in one day.  http://www.mathster.com/course/simgs/111599085824_5.png  Estimate, using the graph, the median minutes of use?  (Give your answer to the nearest integer) | [1] |
| **8)** The cumulative frequency polygon below shows the number of minutes that 20 pupils used a website in one day.  http://www.mathster.com/course/simgs/111599085824_6.png  Estimate, using the graph, the lower quartile of the minutes of use?  (Give your answer to the nearest integer) | [1] |
| **9)** The cumulative frequency polygon below shows the number of minutes that 20 people used a mobile phone in one day.  http://www.mathster.com/course/simgs/111599085824_7.png  Estimate, using the graph, the upper quartile of the minutes of use?  (Give your answer to the nearest integer) | [1] |
| **10)** The cumulative frequency polygon below shows the number of minutes that 20 boys used a laptop in one day.  http://www.mathster.com/course/simgs/111599085824_8.png  Estimate, using the graph, the interquartile range of the minutes of use?  (Give your answer to the nearest integer) | [1] |
| **11)** Using the table, complete the cumulative frequency graph showing the heights of 20 waterfalls, measured in metres.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.mathster.com/course/simgs/111599085824_9.png |  | |  |  | | --- | --- | | Height of waterfalls | Cumulative Frequency | | h   15 | 1 | | h   20 | 4 | | h   25 | 5 | | h   30 | 6 | | h   35 | 11 | | h   40 | 15 | | h   45 | 17 | | h   50 | 20 | | | [1] |
| **12)** Complete the table and the cumulative frequency graph showing the heights of 20 buildings, measured in metres.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.mathster.com/course/simgs/111599085824_10.png |  | |  |  |  | | --- | --- | --- | | Height of buildings | Frequency | Cumulative Frequency | | 25   h   30 | 1 |  | | 30   h   35 | 2 |  | | 35   h   40 | 2 |  | | 40   h   45 | 2 |  | | 45   h   50 | 3 |  | | 50   h   55 | 5 |  | | 55   h   60 | 3 |  | | 60   h   65 | 2 |  | | | [1] |
| **13)** The cumulative frequency table below shows the number of minutes that 20 women used a mobile phone in one day. Using the table complete the cumulative frequency graph and use your graph to estimate the median minutes of use (to the nearest integer).   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.mathster.com/course/simgs/111599085824_11.png |  | |  |  | | --- | --- | | Minutes | Cumulative Frequency | | 10   x   15 | 1 | | 10   x   20 | 4 | | 10   x   25 | 5 | | 10   x   30 | 6 | | 10   x   35 | 11 | | 10   x   40 | 15 | | 10   x   45 | 17 | | 10   x   50 | 20 | | | [1] |
| **14)** The cumulative frequency table below shows the number of minutes that 20 girls used a website in one day. Using the table complete the cumulative frequency graph and use your graph to estimate the interquartile range (to the nearest integer).   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.mathster.com/course/simgs/111599085824_12.png |  | |  |  | | --- | --- | | Minutes | Cumulative Frequency | | 40   x   45 | 1 | | 40   x   50 | 3 | | 40   x   55 | 5 | | 40   x   60 | 7 | | 40   x   65 | 11 | | 40   x   70 | 16 | | 40   x   75 | 18 | | 40   x   80 | 20 | | | [1] |

**Solutions for the assessment Cumulative Frequency**

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| **1)** 17 | **2)** The missing value is 20. |
| **3)** 15 | **4)** 2 |
| **5)** 12 | **6)** 13 |
| **7)** 57 minutes | **8)** 35 minutes |
| **9)** 45 minutes | **10)** 12 minutes |
| **11)**  http://www.mathster.com/course/simgs/111599085824_13.png | |
| **12)** Cumulative Frequencies are 1, 3, 5, 7, 10, 15, 18, 20. http://www.mathster.com/course/simgs/111599085824_14.png | |
| **13)** Median = 34 minutes http://www.mathster.com/course/simgs/111599085824_15.png | |
| **14)** IQR = 14 minutes http://www.mathster.com/course/simgs/111599085824_16.png | |