Ogive – Cumulative Frequency Curve

**Question 3**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Age (x) | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| No. of Teenagers (f) | 4 | 9 | 22 | 19 | 11 | 9 | 6 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Age | ≤13 | ≤14 | ≤15 | ≤16 | ≤17 | ≤18 | ≤19 |
| No. of Teenagers | 4 | 13 | 35 | 54 | 65 | 74 | 80 |

**Cumulative Frequency Curve (Ogive)**



1. **Median** (middle value) = 15.2 years old
2. **Interquartile Range**

 $Interquartile Range=Upper Qurtile-Lower Quartile$

 $16.4-14.4=2 years$

**Mean** *(arithmetic average)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | 52 | 126 | 330 | 304 | 187 | 162 | 114 |  | sum of fx = | 1275 |
| f | 4 | 9 | 22 | 19 | 11 | 9 | 6 |  | sum of f = | 80 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | Mean =  | 15.9375 |

**Mode** *(most common value or the value with the biggest frequency)*

Mode = 15 years

**Range** *(highest x value – lowest x value)*

19 – 13 = 6

Range = 6 years

**Question 4**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Circumference (cm) | 30\_35 | 35\_40 | 40\_45 | 45\_50 | 50\_55 | 55\_60 |
| Frequency | 12 | 25 | 44 | 48 | 18 | 3 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Circumference (cm) | ≤35 | ≤40 | ≤45 | ≤50 | ≤55 | ≤60 |
| Frequency | 12 | 37 | 81 | 129 | 147 | 150 |



1. **Median** (middle value of 75) = 44 cm
2. **Interquartile Range** $Interquartile Range=Upper Qurtile-Lower Quartile$

 $47.5-41=6.5 cm$

1. 122 – 62 = 60 trees ****