**Box Plots**

**Question 1**

Draw a box plot for the Cumulative Frequency curve data below. You will need to draw the Cumulative Frequency Curve first.

|  |  |  |
| --- | --- | --- |
| **Tree Height (cm)** | **Frequency** | **Cumulative Frequency** |
| **220 ≤ x < 240** | 18 |  |
| **240 ≤ x < 260** | 20 |  |
| **260 ≤ x < 280** | 30 |  |
| **280 ≤ x < 300** | 42 |  |
| **300 ≤ x < 320** | 16 |  |
| **320 ≤ x < 340** | 14 |  |

**Question 2**

Complete the table below and using a Cumulative Frequency curve, construct a box plot to summarise the data.

|  |  |  |
| --- | --- | --- |
| **IQ** | **Frequency** | **Cumulative Frequency** |
| **70 ≤ x < 80** | 6 |  |
| **80 ≤ x < 90** | 8 |  |
| **90 ≤ x < 100** | 15 |  |
| **100 ≤ x < 110** |  | 54 |
| **110 ≤ x < 120** | 12 |  |
| **120 ≤ x < 130** | 8 |  |
| **120 ≤ x < 140** |  | 80 |

**Question 3**

Draw 2 box plots on the same diagram, using the information on the length of time 2 different types of lightbulb last. Then, answer the questions below.

Speedy Light: Ultrabulb:

Lowest Value – 1200 hours Lowest Value – 1050 hours

Lower Quartile – 1500 hours Median – 1400 hours

Median – 1700 hours Upper Quartile – 1900 hours

Upper Quartile – 1800 hours Range – 1100 hours

Highest Value – 2800 hours Interquartile range – 750 hours

1. Look at the medians and interquartile ranges – use these to compare the different types of bulb. Which would you be most likely to use and why?
2. What is the probability of a random speedylight bulb lasting more than 1800 hours?