**Stretch**

Thirty people were asked what their height is in cm. The results are below.

 137 215 148 196 154 83

 127 184 157 89 93 112

 207 194 175 167 174 164

 173 177 140 154 187 176

 130 103 178 115 178 184

1) Construct a grouped frequency table of this data.

2) Using the table, estimate the mean, find the modal class and the class which the median is in.

**Memory**

Mean = $\frac{∑fx}{∑f}=\frac{212}{32}=6.625$

Modal class = 12 $<$ h $\leq $ 16 (highest frequency)

Median = [(32 + 1) $÷$ 2]th value = 17th value = 8 $<$ h $\leq $ 12

|  |  |
| --- | --- |
| Height, h, cm. | Frequency |
| 0 $<$ h $\leq $ 4 | 1 |
| 4 $<$ h $\leq $ 8 | 3 |
| 8 $<$ h $\leq $ 12 | 15 |
| 12 $<$ h $\leq $ 16 | 19 |
| 16 $<$ h $\leq $ 20 | 7 |

|  |  |
| --- | --- |
| Weight, w, kg. | Frequency |
| 40 $<$ w $\leq $ 50 | 2 |
| 50 $<$ w $\leq $ 60 | 15 |
| 60 $<$ w $\leq $ 70 | 19 |
| 70 $<$ w $\leq $ 80 | 10 |
| 80 $<$ w $\leq $ 90 | 1 |

|  |  |  |  |
| --- | --- | --- | --- |
| Height, h, cm. | Frequency | Mid-Point | $$fx$$ |
| 0 $<$ h $\leq $ 4 | 3 | 2 | 6 |
| 4 $<$ h $\leq $ 8 | 8 | 6 | 48 |
| 8 $<$ h $\leq $ 12 | 9 | 10 | 90 |
| 12 $<$ h $\leq $ 16 | 12 | 14 | 168 |
|  | 32 |  | 212 |

|  |  |
| --- | --- |
| Size, s, mm. | Frequency |
| 47 $<$ s $\leq $ 50 | 4 |
| 50 $<$ s $\leq $ 53 | 36 |
| 53 $<$ s $\leq $ 56 | 48 |
| 56 $< $s $\leq $ 59 | 28 |
| 59 $<$ s $\leq $ 62 | 8 |
| 62 $<$ s $\leq $ 65 | 1 |

|  |  |
| --- | --- |
| Time, t, secs. | Frequency |
| 240 $<$ t $\leq $ 250 | 3 |
| 250 $<$ t $\leq $ 260 | 18 |
| 260 $<$ t $\leq $ 270 | 24 |
| 270 $<$ t $\leq $ 280 | 56 |
| 280 $<$ t $\leq $ 290 | 72 |
| 290 $<$ t $\leq $ 300 | 27 |

**Skills**

For each grouped frequency table, estimate the mean, find the modal class and find the class the median is in.

**Research**

What charts or diagrams can you make from a grouped frequency table?

**Literacy**

Mean, Median, Mode, Range, Average, Spread, Frequency, Table, grouped, mid-point