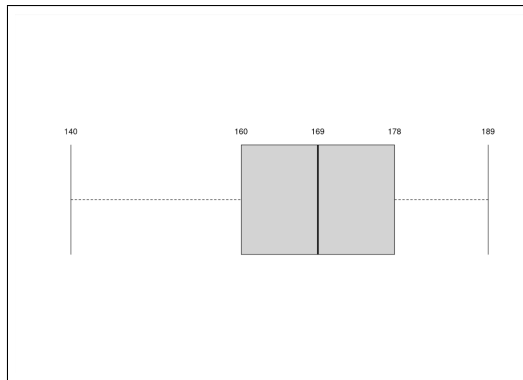


### Revision Exercise (Statistics)

1.  
(i)

Stem (tens)	Leaf (Units)	
14	0 1 3 9 9	<b>Key</b>
15	4 6 8 9	<b>14 3 means 143</b>
16	0 0 2 2 3 3 4 5 5 7 8	or
17	0 1 2 4 4 5 7 7 7 7 9	<b>14 3 = 143</b>
18	0 0 1 3 4 5 7 8 9	

- (ii)  $Q_2 = 169$  cm  
 (iii)  $Q_1 = 160$  cm,  $Q_3 = 178$  cm  
 (iv)

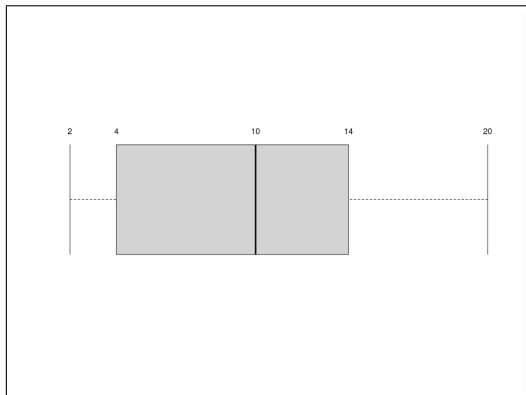


2.  
(i)

Stem (tens)	Leaf (Units)	
1	1 1 1 1 1 2 3 3 3	<b>Key</b>
5	0 2 3 3	<b>5 0 means 5</b>
9	1 1 1 1 2 3 3	
13	1 1 1 2 2 3	<b>5 2 means 7</b>
17	0 1 2 3	

- (ii) Median = 10; Mode = 2  
 (iii) SIQR = 5

(iv)



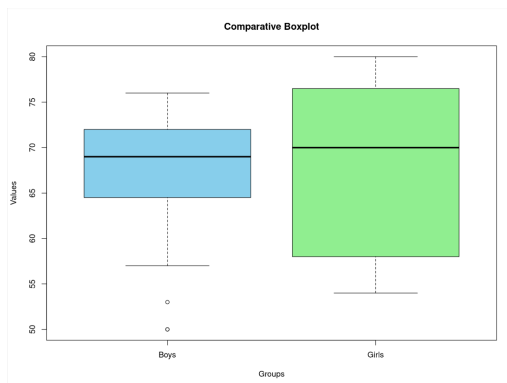
3.

(i)

<b>Key (Boys)</b>	<b>Boys</b>	<b>Stem</b>	<b>Girls</b>	<b>Key (Girls)</b>
<b>0   55 = 55</b>	3 0 0	<b>50</b>	4	<b>55   0 = 55</b>
		2 <b>55</b>	0 1 2 2 4	
		4 <b>60</b>	3 3	
<b>4   55 = 59</b>	4 4 2 2 2 0	<b>65</b>	3 4	<b>55   4 = 59</b>
	4 4 2 2 1 0 0	<b>70</b>	1 2 3 3	
	1 0	<b>75</b>	1 2 4 4	
		<b>80</b>	0 0	

(ii) Boys:  $Q_1 = 64.5$ ;  $Q_2 = 69$ ;  $Q_3 = 72$     Girls:  $Q_1 = 58$ ;  $Q_2 = 70$ ;  $Q_3 = 76.5$

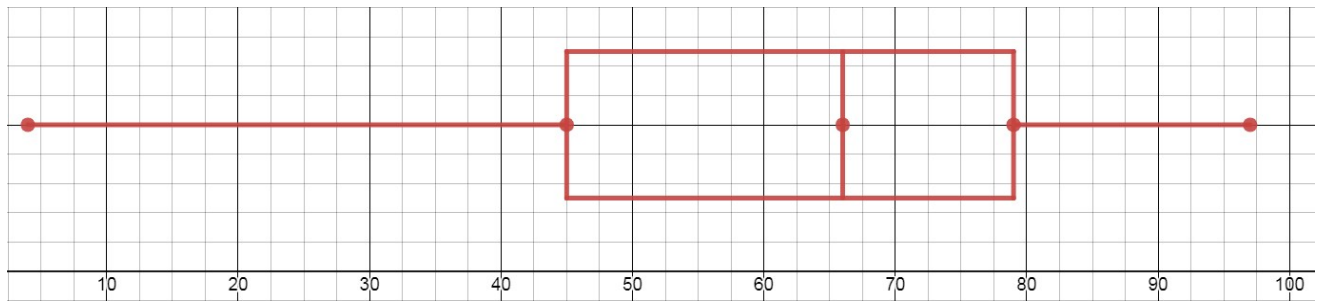
(iii)



4.

(i)  $Q_1 = 45$ ;  $Q_2 = 66$ ;  $Q_3 = 79$

(ii) Skewed to the left / Negatively skewed.



Scores of students in a test

(iii) Mode = 79

5. a)

(i) 10.6025

(iv) 10.05

(vii) 0.49

(ii) 1.60

(v) 11.03

(viii) 0.33

(iii) 10.5

(vi) 0.98

(ix) 0.57

5. b)

(i) 45.97

(iv) 44.88

(vii) 0.84

(ii) 4.95

(v) 46.55

(viii) 1.95

(iii) 45.99

(vi) 1.67

(ix) 1.396

5. c)

(i) 94.75

(iv) 60

(vii) 28.75

(ii) 152

(v) 117.5

(viii) 2097.04

(iii) 77.5

(vi) 57.5

(ix) 45.79

6.

**Sachin**

(i) Lowest score = 0; Highest score = 77

(ii) 77

(iii) 30 – 39

(iv)  $Q_1 = 22$ ;  $Q_2 = 34$ ;  $Q_3 = 50$

(v)  $IQR = 28$ ;  $SIQR = 14$

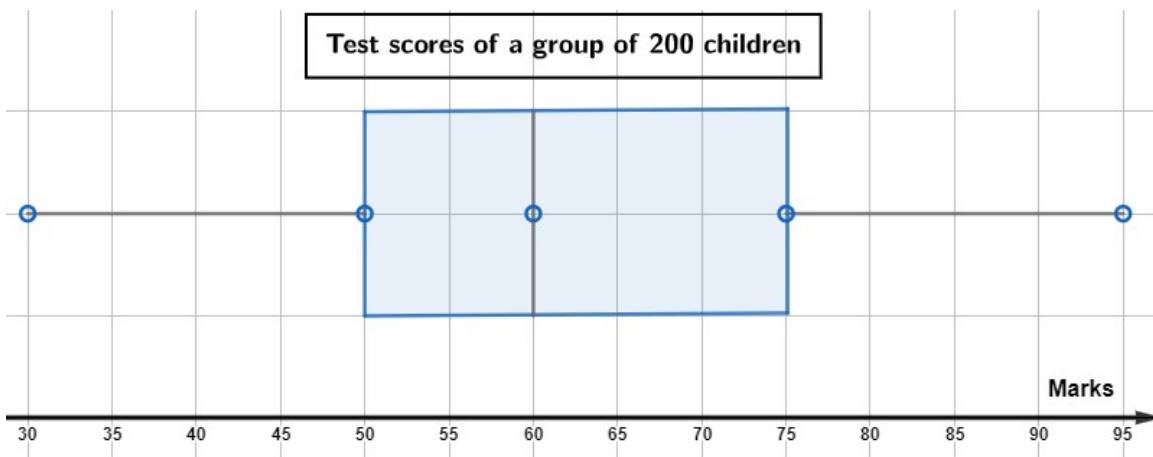
**Brian**

- (i) Lowest score = 1; Highest score = 93
- (ii) 92
- (iii) 20 – 29
- (iv)  $Q_1 = 15$ ;  $Q_2 = 26$ ;  $Q_3 = 39$
- (v)  $IQR = 24$ ;  $SIQR = 12$
- (vi)



7.

- (i) Range = 65;  $IQR = 25$ ;  $SIQR = 12.5$
- (ii)



- (iii) Skewed to the right / Positively skewed.
- (iv) 50 children

8.

- (i) Minimum = 25; Maximum = 85
- (ii)  $Q_1 = 50$ ;  $Q_2 = 55$ ;  $Q_3 = 70$
- (iii) Range = 60;  $IQR = 20$ ;  $SIQR = 10$
- (iv) Skewed to the right / Positively skewed.
- (iv) 90 children

9. a)

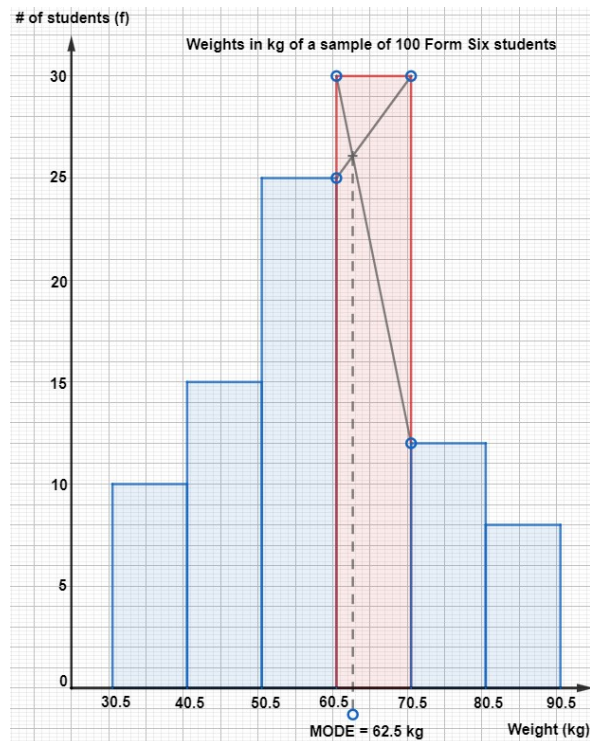
- (i) Mean = 21.7; Median = 22.5; Mode = 25
- (ii)  $\sigma^2 = 14.4$ ;  $\sigma = 3.79$
- (iii)  $Q_1 = 15$ ;  $Q_3 = 30$
- (iv)  $IQR = 15$ ;  $SIQR = 7.5$

9. (b)

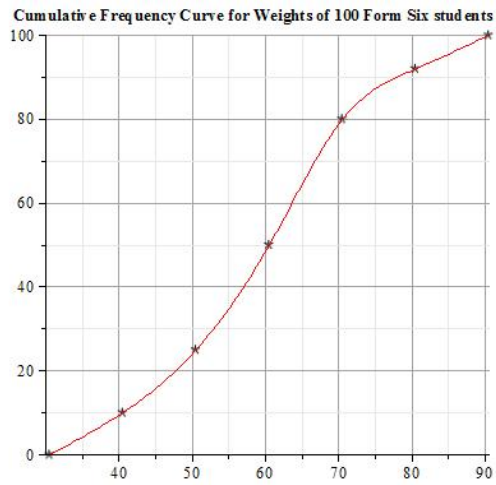
- (i) Mean = 5.23; Median = 5; Mode = 7
- (ii)  $\sigma^2 = 1.45$ ;  $\sigma = 1.2$
- (iii)  $Q_1 = 3$ ;  $Q_3 = 7$
- (iv)  $IQR = 4$ ;  $SIQR = 2$

10. (a)

(i)



(ii)

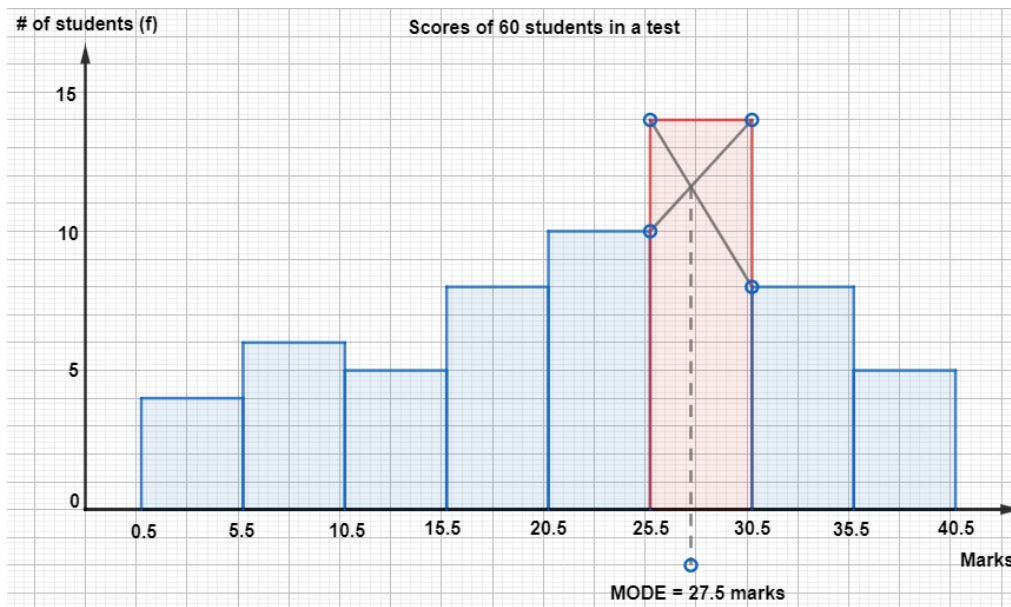


(ii)  $Q_1 = 50.5$ ;  $Q_2 = 60.5$ ;  $Q_3 = 69$ ; 40<sup>th</sup> percentile = 57; 90<sup>th</sup> percentile = 78

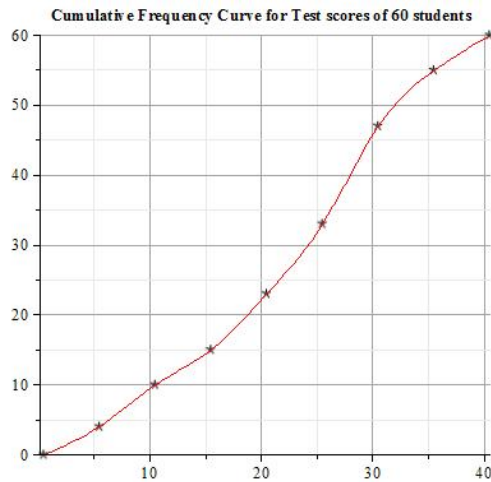
(iii) Mean = 59.8;  $\sigma^2 = 17.53$ ;  $\sigma = 4.19$

10. (b)

(i)



(ii)



(ii)  $Q_1 = 15.5$ ;  $Q_2 = 24$ ;  $Q_3 = 30$ ; 40<sup>th</sup> percentile = 21; 90<sup>th</sup> percentile = 35

(iii) Mean = 22.42;  $\sigma^2 = 17.99$ ;  $\sigma = 4.24$

11. (a)

(i) 10<sup>th</sup> percentile = 5; 45<sup>th</sup> percentile = 20; 90<sup>th</sup> percentile = 46

(ii) Percentile rank of 8 = 25; Percentile rank of 46 = 90

11. (b)

(i) 10<sup>th</sup> percentile = 100.5; 45<sup>th</sup> percentile = 138.25; 90<sup>th</sup> percentile = 176

(ii) Percentile rank of 125 = 20; Percentile rank of 167 = 73.33

11. (c)

(i) 10<sup>th</sup> percentile = 55.3; 45<sup>th</sup> percentile = 66.95; 90<sup>th</sup> percentile = 83.3

(ii) Percentile rank of 65.7 = 40; Percentile rank of 70.3 = 60

12. (a)

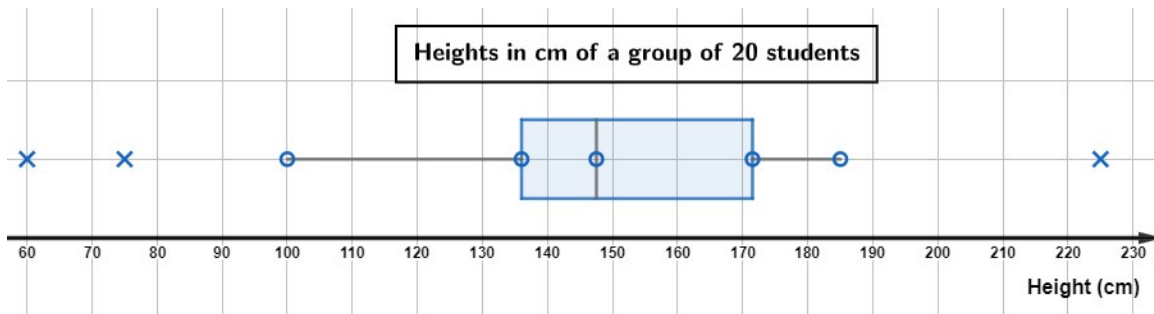
(i)  $Q_1 = 136$ ;  $Q_2 = 147.5$ ;  $Q_3 = 171.5$

(ii)  $IQR = 35$

(iii) Inner Fences: 84, 224. Outer Fences: 31.5, 241.5

(iv) Outliers: 60, 75, 225 (Minor)

(v)



12. (b)

(i)  $Q_1 = 164$ ;  $Q_2 = 178$ ;  $Q_3 = 191$

(ii)  $IQR = 27$

(iii) Inner Fences: 123.5, 231.5. Outer Fences: 83, 272

(iv) Outliers: 90 (Minor), 300 (Major)

(v)

