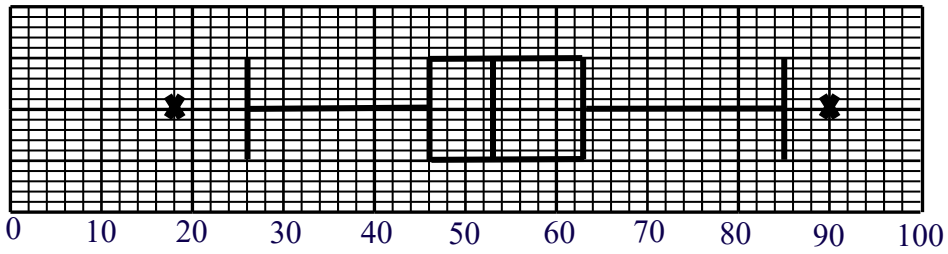
| Question Number | Scheme | Marks |
|---|---|---|
| 1 (a) | Median = 53 | B1 |
| | IQR = 63 – 46 | M1 |
| | = 17 | A1 |
| | | (3) |
| (b) | '46' – 1.5 × '17' or '63' + 1.5 × '17' | M1 |
| | 20.5 and 88.5 | A1 |
| |  | M1<br>A1ft<br>B1 |
| | | (5) |
| (c) | Lower Quartile changes from 46 to 43 | B1 |
| | Lower outlier boundary is now 13 **or** upper outlier bounday is now 93 | M1 |
| | So, X removed at 18 **and** lower whisker extended to 18 oe | A1 |
| | X at 90 moved to 94 | A1 |
| | [All other points remain the same] | |
| | | (4) |

| | Notes | Total 12 |
|---|---|---|
| (a) | **B1** | Cao |
| | **M1** | For an attempt at IQR. Either $Q_1$ or $Q_3$ must be correct. |
| | **A1** | Cao |
| (b) | **M1** | For use of either LQ – 1.5 × IQR or UQ + 1.5 × IQR ft their LQ/UQ and their IQR<br>May be implied by 20.5 or 88.5 or a fully correct box plot with outliers plotted correctly |
| | **A1** | Cao May be implied by a fully correct box plot with outliers plotted correctly |
| | **M1** | For a box with an upper and lower whisker |
| | **A1ft** | For a box with an upper and lower whisker and the LQ, median and UQ plotted correctly ft their values [Allow ½ square tolerance] |
| | **B1** | For lower whisker plotted at 26 or their 20.5 **and** upper whisker plotted at 85 or their 88.5 **and** only 2 outliers marked at 18 and 90 |
| (c) | **B1** | For LQ changes to 43 |
| | **M1** | For 13 or 93 identified as the new outlier boundaries |
| | **A1** | Dep on 13 being identified as the new outlier boundary.<br>For outlier removed at 18 **and** lower whisker extended to 18 (Do not accept the lower whisker is extended to 13) |
| | **A1** | Dep on 93 being identified as the new outlier boundary.<br>For outlier at 90 moved to 94 [and whisker extended to 93 – Ignore any reference to the upper whisker] |