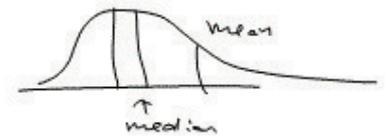


$$(d) \frac{3n}{4} = 150, \text{ so } Q_3 \approx 25.5$$

$$IQR \approx 25.5 - 18.56 = 6.94$$

$$= 6.935 + 8.387 = 6.94 \text{ to } 3 \text{ sf} \quad (\text{ANS})$$

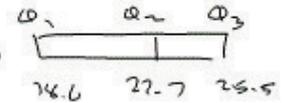
(e) mean  $\approx 24.1875 > 22.7 \approx$  median  
indicating positive skew.



OR

$$Q_3 - Q_2 \approx 25.5 - 22.7 = 2.8 < 4.1 = 22.7 - 18.6 = Q_2 - Q_1$$

indicating negative skew.



In either case, indication that the distribution is not symmetrical means that you should not use mean and standard deviation as summary data.

Remember: until you have finished your SI exam, you must pretend to believe in the ridiculous Edexcel SI shibboleth that you should use median and IQR as summary statistics for non-symmetric data, instead of mean and standard deviation.

You can then forget this absurd piece of nonsense.

We know it is absurd, because it is logically equivalent to the instruction to always use median and IQR, and never use mean and standard deviation.

(If mean and median are different, that is evidence of skewness, so you should use the median; while if the mean and median are the same, you should use the mean, which is the same as the median! So you always use the median.)

In fact, outside Edexcel SI (even in other Edexcel statistics exams), people overwhelmingly use the mean and standard deviation as summary statistics for data whether it is symmetrical or not, and sometimes there are overwhelming reasons to do so even for clearly asymmetrical data.