100m Rowing

Brothers Richard and Peter Chambers recorded their last 7 times for 100m rowing. Here are the results in seconds:

Richard	**16**	**15**	**21**	**12**	**20**	**14**	**12**

Peter	**14**	**10**	**21**	**14**	**13**	**24**	**11**

Use the median and semi-interquartile range to compare their times.

Richard

12 12 14 15 16 20 21

Q_1 Median Q_3

$$SIR = \frac{Q_3 - Q_1}{2}$$

$$= \frac{20 - 12}{2} = 4$$

Peter

10 11 13 14 14 21 24

Q_1 median Q_3

$$SIR = \frac{Q_3 - Q_1}{2}$$

$$= \frac{21 - 11}{2} = 5$$

On **average** Peter's times are faster as 14 < 15 but Richard's times are more **consistent** as 4 < 5.

Try to keep your comment as brief and specific as possible using the key words of average and consistent.

800m Freestyle


Rebecca Adlington has been training to try to reduce her pulse rate after a race in order to enhance performance in competitions.

Here are her pulse rates for the 9 swims before and after the training.

Before	**178**	**200**	**196**	**185**	**165**	**175**	**163**	**195**	**188**
After	**183**	**152**	**148**	**168**	**132**	**189**	**155**	**146**	**192**

Compare her performance before and after using the mean and standard deviation.

Before

$\sum x = 1645$ $\bar{x} = 182.\dot{7}$

$\sum x^2 = 302113$

$$sd = \sqrt{\frac{302113 - 1645^2/9}{8}}$$

$= 13.4$

After

$\sum x = 1465$ $\bar{x} = 162.\dot{7}$

$\sum x^2 = 242071$

$$sd = \sqrt{\frac{242071 - 1465^2/9}{8}}$$

$= 21.2$

On **average** Rebecca's pulse rate has improved after training as $162.\dot{7} < 182.\dot{7}$ but her pulse rates were more **consistent** before as $13.4 < 21.2$

Try to keep your comment as brief and specific as possible using the key words of average and consistent.