

IQR

a. The interquartile range. Compare the two interquartile ranges.

b. Any outliers in either set.

The five number summary for the day and night classes is

	Minimum	Q_1	Median	Q_3	Maximum
Day	32	56	74.5	82.5	99
Night	25.5	78	81	89	98

Day: $IQR = Q_3 - Q_1$

$$= 82.5 - 56$$

$$IQR = 26.5$$

Lesser Outlier: $Q_1 - 1.5 \cdot IQR$

$$= 56 - 1.5 \cdot 26.5 = 56 - 39.75$$

$$= 16.25$$

Greater Outlier: $Q_3 + 1.5 \cdot IQR$

$$= 82.5 + 1.5 \cdot 26.5 = 82.5 + 39.75$$

$$= 122.25$$

There is no lesser and greater outlier present in Day.

Night: $IQR = Q_3 - Q_1$

$$= 89 - 78$$

$$IQR = 11$$

Lesser Outlier: $Q_1 - 1.5 \cdot IQR$

$$= 78 - 1.5 \cdot 11 = 78 - 16.5$$

$$= 61.5$$

Greater Outlier: $Q_3 + 1.5 \cdot IQR$

$$= 89 + 1.5 \cdot 11 = 89 + 16.5$$

= 105.5

There is no lesser and greater outlier present in Night.