

IQR Summary

MEASURE OF LOCATION OF THE DATA

Interquartile Range(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

$$\text{Day Class IQR} = Q_3 - Q_1 = 82.5 - 56 = 26.5$$

$$\text{Lesser Outlier} = Q_1 - (1.5 * \text{IQR}) = 56 - (1.5 * 26.5) = 56 - 39.75 = 16.25$$

$$\text{Greater Outlier} = Q_3 + (1.5 * \text{IQR}) = 82.5 + (1.5 * 26.5) = 82.5 + 39.75 = 122.25$$

$$\text{Night Class IQR} = Q_3 - Q_1 = 89 - 78 = 11$$

$$\text{Lesser Outlier} = Q_1 - (1.5 * \text{IQR}) = 78 - (1.5 * 11) = 78 - 16.5 = 61.5$$

$$\text{Greater Outlier} = Q_3 + (1.5 * \text{IQR}) = 89 + (1.5 * 11) = 89 + 16.5 = 105.5$$

a. The Day Class has a wider range of data (larger IQR) compared to the Night Class.

b. No outliers were identified in either the Day or Night class datasets.