5,500

Assignment

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

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

$$\boxed{IQR = Q_3 - Q_1}$$

$$= 82.5 - 56 = 26.5$$

$$= 89 - 78 = 11$$

~~Lesser Outlier~~

$$\boxed{1.5\ Rule = 1.5 * IQR}$$

$$= 1.5 * 26.5 = 39.75$$

$$= 1.5 * 11 \qquad = 16.5$$

$$\boxed{Lesser\ Outlier = Q_1 - (1.5 * IQR)}$$

$$= 56 - 39.75 = 16.25$$

$$= 78 - 16.5 = 61.50$$

$$\boxed{Greater\ Outlier = Q_3 + (1.5 * IQR)}$$

$$= 82.5 + 39.75 = 122.25$$

$$= 89 + 16.5 = 105.5$$

Observation

=> The **Lesser outlier** value for

Day	= 16.25
Night	= 61.50

* For the Day row if the minimum value is lesser than 16.25 then we can say that there is a potential lesser outlier value exists in the Day row.

* But in the Day row the minimum value is **32**, hence which is great than 16.25, hence there is **no** lesser outlier exists in the Day row.

the Night row, if the minimum
is lesser than 61.50, then we can
that there is a potential lesser outlier
exists in the Night row.

the night low, the minimum value is
25.50 which is lesser than 61.50, hence
we are confirming that there is a
potential lesser outlier value exists in
the Night row.

The Greater outlier value for

Day	= 122.25
Night	= 105.5

for the Day low if the maximum value
is greater than the greater outlier value
(i.e) 122.25, then we can say that
there is a potential greater outlier value

* But in the Day row the maximum value is 99 which is not greater than 122.25, hence there is no greater outlier exists in the Day row.

* For the night row, if the maximum value is greater than the greater outlier value (i.e) 105.5, then we can say that there is a potential greater outlier exists in the night row.

* But in the night row the maximum value is 98 which is not greater than 105.5, hence there is no greater outlier exists in the night row.

In short

Day row	= No lesser/greater outlier ex
Night row	= lesser outlier exists No greater outlier