Statistics Day #6 REVIEW and HOMEWORK

Name: _____

Date: _____

Sophia and Fabian are surveying the times it takes students to arrive at school from home. There are 2 main groups of commuters who were in the survey. There were those who drove their own cars to school, and there are those who took the bus to school. Sophia and Fabian collected the following data:

| Bus times (min) | 14 | 18 | 16 | 22 | 25 | 12 | 32 | 16 | 15 | 18 |
| Car times (min) | 12 | 10 | 13 | 14 | 9 | 17 | 11 | 10 | 8 | 11 |

1. FIND: The 5-Number Summary for the commuters on the bus.

Min = _____ Q_1 = _____   Med = _____ Q_3 = _____
Max = _____

Range =_____   IQR = _____   1.5(IQR) = _____

Fences: Q_1 -1.5(IQR) = _____ Q_3 + 1.5(IQR) = _____

Are there any outliers?_____
Which values?_____

Mean = _____   Mode = _____

2. FIND: The 5-Number Summary for the commuters in the cars.

Min = _____ Q_1 = _____   Med = _____ Q_3 = _____
Max = _____

Range =_____   IQR = _____   1.5(IQR) = _____

Fences: Q_1 -1.5(IQR) = _____ Q_3 + 1.5(IQR) = _____

Are there any outliers?_____
Which values?_____
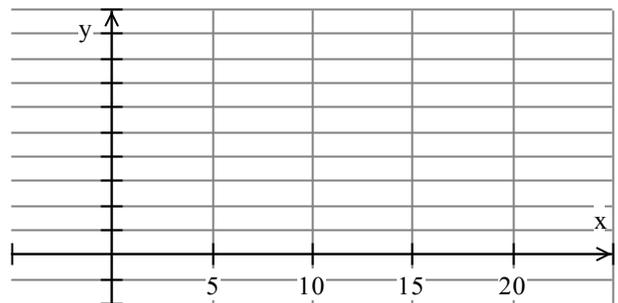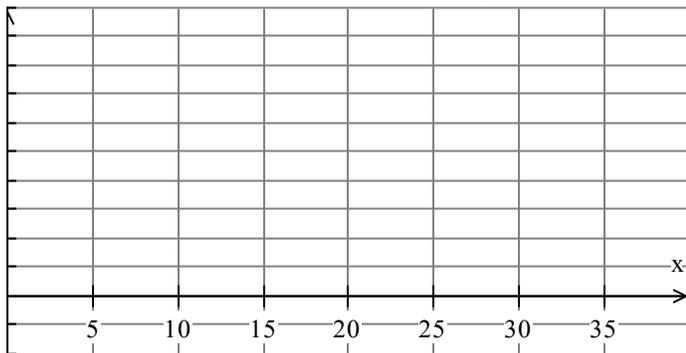
Mean = _____   Mode =_____

3. Complete the frequency table for the bus times.

Bus Commute time (min)	Tally	Frequency
10-14		
15-19		
20-24		
25-29		
30-34		

4. Complete the frequency table for the car times.

Car Commute time (min)	Tally	Frequency
5-9		
10-14		
15-19		

5. On the graph provided, create a histogram for each data set. Label each graph.

6. Draw comparative box-and-whisker plots using the same number line for the data sets given. Remember to label which boxplot is for the bus commute time and which is for the car commute time.
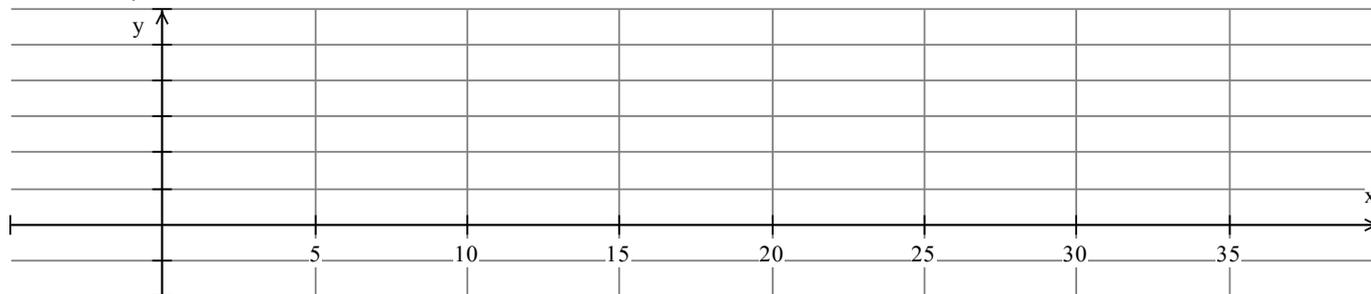
7. Use your box-plot graphs to answer a, b, c and d. All questions based on these commute times.

(a) What percent of the bus commuters took less than 17 minutes to arrive at school? _____

(b) What percent of the car commuters took less than 17 minutes to arrive at school? _____

(c) What percentile is a 10 minute car commute to school? _____

(d) What percentile is a 25 minute bus commute to school? _____

(e) Write **at least** four sentences that compare the commute times (based on the data above) for the bus and a car. Remember to write about Shape, Center, Spread, and other interesting features using the quartiles.

8. Scenario: Help Alex decide if he should take the bus to school or drive his car. **Explain** to him using statistics what you advise.