**Spending Per Student in Some Schools**

4037

8882

4611

4280

4921

5097

8473

6621

10180

5516

4915

5879

3844

5893

5630

5288

5659

5107

4519

6069

6958

6959

6658

5720

3660

5114

5598

5651

5049

5723

9677

4261

9175

4894

4674

5971

4697

6263

6983

7333

4761

4586

4149

4898

3439

6600

5109

5751

5713

6717

5899

1. Create a histogram of the data with the interval size (width of your bars) of $500 starting at $3000. USE GRAPH PAPER.
2. Create a 5 number summary of the data. Be sure to show your work
(i.e. I will take points off for not showing your work)
3. Are there any outliers in the data? Use the test for outliers to give a definitive answer. Be sure to show your work (i.e. I will take points off for not showing your work)
4. Create a box plot of the same data *below or above your histogram*. If this isn’t possible, be sure to use the same scale when creating the box plot as you used on your histogram. Your answer to number 3) should factor into your box plot. USE GRAPH PAPER.
5. Match the histogram with
the correct box plot?

Draw lines between the
ones you think go together.

1. Do your best to create a box plot from the following histogram. Make your box plot below the histogram using the same scale.

 13 3 4 3 3 2 0 0 1 1

Draw Box Plot Here.

1. Students were given the opportunity to prepare for a college placement test in mathematics by taking a review course. Not all students took advantage of this opportunity. The following results were obtained from a random sample of students who took the placement test.

Fill in the missing cell values.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Placed in Math 200** | **Placed in Math 100** | **Placed in Math 50** | **Total** |
| **Took Review Course** |  |  |  |  |
| **Did Not Take Review Course** |  |  |  |  |
| **Total** |  |  |  |  |

1. Construct a row conditional relative frequency table of the above data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Placed in Math 200** | **Placed in Math 100** | **Placed in Math 50** | **Total** |
| **Took Review Course** |  |  |  |  |
| **Did Not Take Review Course** |  |  |  |  |
| **Total** |  |  |  |  |

1. Based on the conditional relative frequencies, is there evidence of an association between whether a student takes the review course and the math course in which the student was placed? Explain your answer.
2. How does the standard deviation of the first graph compare with the standard deviation of the second graph? Be as detailed in your answer as you can.

 Graph 1 Graph 2

1. A small car dealership tests the fuel efficiency of sedans on its lot. It chooses sedans for the test. The fuel efficiency (mpg) values of the cars are given in the table below. Use the table to calculate the standard deviation.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fuel Efficiency (miles per gallon) |  |  |  |  |  |  |  |  |  |  |  |  |
| Deviation from the Mean |  |  |  |  |  |  |  |  |  |  |  |  |
| Squared Deviation from the Mean |  |  |  |  |  |  |  |  |  |  |  |  |