

Find the mean for the given sample data. Unless indicated otherwise, round your answer to one more decimal place than is present in the original data values.

1) The normal monthly precipitation (in inches) for August is listed for 24 different U.S. cities.

Find the mean and standard deviation of the monthly precipitation. $\bar{x} = \underline{\hspace{2cm}}$ $s = \underline{\hspace{2cm}}$

Remove the outlier 9.2 and find $\bar{x} = \underline{\hspace{2cm}}$ $s = \underline{\hspace{2cm}}$

How does the outlier effect the mean and standard deviation.

Make a frequency distribution for this data with a lowest class limit of 0.3 and a class width of 1.0.

3.5 1.6 2.4 3.7 4.1 4.2
 3.9 1.0 3.6 4.2 3.4 3.1
 3.7 2.2 1.5 4.2 3.4 9.2
 2.7 0.4 3.7 2.0 3.6 0.8

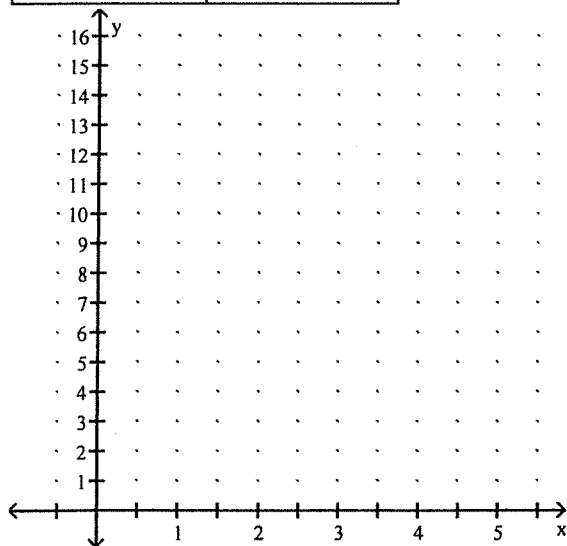
Determine the midpoint of the first class. _____

Determine the class boundaries for the first class. _____

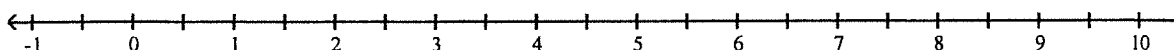
Make a histogram of this data below.

Does this data appear to be normally distributed? yes no
 Explain.

Class	Frequency



Above this number line Make a box plot for this data. Use a star for the outlier 9.2.



Use Z-Scores to determine which score corresponds to the higher relative position.

3) (5 Points) Which student's score has the highest relative position:

a score of 44.2 on a math test for which $\bar{x} = 40$ and $s = 6$, or

a score of 3.1 on a biology test for which $\bar{x} = 2.1$ and $s = 0.7$.

Draw two standard normal distributions and label two axes, a z-axis and an x-axis with the test scores.

Solve the problem.

4) (10 Points) The mean number of M&M's in a bag is 42 and the standard deviation is 3. Use the range rule of thumb to estimate the minimum and maximum "usual" numbers of M&M's in a bag.

Is the number of M&M's in a bag discrete or continuous? _____

If we get a bag with 44 M&M's what is the Z-score of this value? _____

Significantly low are \leq _____ Significantly high values are \geq _____

Is an 44 significant? _____ Why?

Draw a normal distribution showing the above information. Label two axes, the z-axis and an x-axis with the z-scores and the test scores.