A. P. Statistics

Name _____

Period _____

# Study Guide 1.2 A

Pages 30 - 41

## *Describing Distributions with Numbers*

The most common measure of center of a distribution is the _____

| The Mean $\bar{x}$ |
| --- |
| |

| The Median |
| --- |
| |

The _____ is said to be **resistant** to extreme observations.

The mean and the median of a symmetric distribution are _____.

If the distribution is *exactly* symmetric, _____ _____.

## *Measuring Spread: the quartiles*

The simplest useful numerical description of a distribution consists of both a measure of _____ and a measure of _____.

The **range** shows the _____

The **quartiles** mark out _____.

The **interquartile range** (IQR) is defined as _____

We will call an observation an outlier if _____

_____

| The Five Number Summary of a data set consists of |
| --- |
| |

*The Boxplot*

The central box has its ends at _____. The line in the box is

_____. The "whiskers" extend to _____

and _____.

Boxplots may be drawn either _____ or _____.

Be sure to include _____.

Because boxplots show less detail than histograms or stemplots, they are best used for

_____.

What is the difference between a boxplot and a modified boxplot?

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# Study Guide 1.2 B pages 43 - 46 Review pages 47 - 53

The most common numerical description of a distribution is _____ and

_____.

*The Standard Deviation*

Variance $s^2$ of a set of observations is _____

_____

$s^2$ =

The Standard Deviation s is _____

s =

The standard deviation measures spread by looking at how far the observations are from their mean.

In fact, *the sum of the deviations of the observations from their mean will always*

_____.

The variance $s^2$ is the _____.

The variance is large if _____; it is small if

_____ .

The number **n - 1** is called _____.

*Properties of the Standard Deviation*

- s measures _____ and should be used only when _____
- s = 0 only when _____

As the observations become more spread out about their mean _____.

- s, like _____ is stronly influenced by _____

The five-number summary is usually a better than the mean and standard deviation for describing a _____.

Use $\bar{x}$ and s only for _____.

Since numerical measures of center and spread report specific facts about a distribution, but they do not describe its entire shape, ALWAYS _____.

- Be sure you read the summary on pages 47 and 48
- and the chapter review on pages 51 through 53.