**Ipad died ☹ January 25, 2016**

**Question 8:**

Average = sum of Xi’s/10

10(63,000) = sum of Xi’s

1/10th of old number subtracted

add another 1/10th of new number, = new total

n-1 in variance – corrects for bias

n in population variance

usually don’t know population mean, only have sample

**Finding Quartiles**

Q1: median of bottom half:

Q2: median

Q3: median of top half:

-robust measure of spread

-interquartile range or fourth spread: Q3-Q1

**Boxplot**

Plot lower quartile and upper quartile, put box around it and a line where median is

“whiskers” where greatest and least ***last non-outliers*** exist

outliers: inner quartile range \* 1.5

if no outliers exist, the whiskers sit on top and bottom values

Inner quartile range = Q3-Q1

small outlier cutoff: Q1-1.5 \*(IQR)

large outlier cutoff: Q3+1.5\*(IQR)

DIFFERENT THAN WHISKER POINTS

Right skewed

Left Skewed

Right Skewed

Not clear is skewed or not if whisker is out further, for example:

Histogram vs. Box Plot?

Histogram shares more information, but difficult to compare

Box Plots are easier to compare

Probability:

Dealing with chance, randomness, and uncertainty

Experiment:

Cannot be determined in advance what outcome will be

Sample Space:

Set of all possible outcomes

Randomly pull card?

Cards:

S = {ace of spades, 2 of spades, ace of hearts, etc…}

Event: draw a hearts (subset, A-K hearts)

Component breaks on computer?

S = (0, infinity) or [0, infinity) or [0, 1 million]

Subset = [0, 20]

Event: “interesting” subset of sample space

Empty set – subset of every set