

# Quiz Notes

## Standard deviation

steps when given a list of #'s

- ① find the mean
- ② actual # - mean ← deviation
- ③ (actual # - mean)<sup>2</sup> ← deviation<sup>2</sup>
- ④ sum all the deviation<sup>2</sup>
- ⑤ divide by the number of numbers - 1 ← variance
- ⑥  $\sqrt{\quad}$  answer from step 5

## histograms

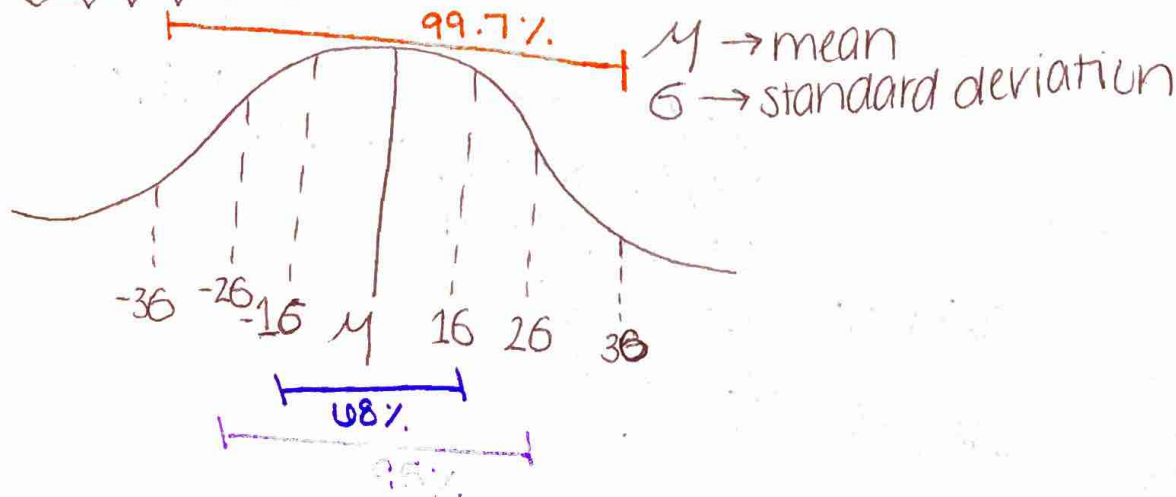
$$\text{relative frequency} = \frac{\text{frequency}}{\text{total}}$$

for examples see  
3/30 notes

## probability distribution

- the graph's total area is 1
- the median is where the area is split in half (the x-value)
- the mode is the x-value of the maximum of the graph

## normal distribution



## Z-score

- number of deviations away from the mean
- positive is above the mean
- negative is below the mean

$$Z = \frac{x - \mu}{\sigma}$$

Annotations:  
-  $Z$ : z-score  
-  $x$ : actual #  
-  $\mu$ : mean  
-  $\sigma$ : standard deviation

## Correlation coefficient

- represented with "r"
- between -1 & 1

$$|r = -1|$$



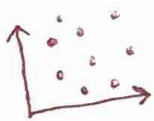
linear, negative

$$|r = 1|$$



linear, positive

$$|r = 0|$$



no correlation