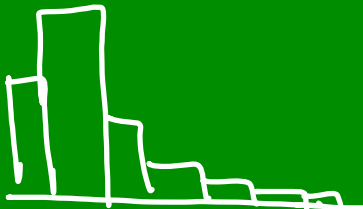# STAT REVIEW
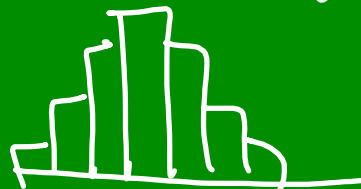
1.5 pages = Mult. choice/Matching — #6-8 Journal

Central Tend. = <u>Mean</u>, Median, Mode

Variation = St. Dev. <u>Range</u>, IQR
$$Q_3 - Q_1$$

Median/IQR   Mean/St. Dev.

#15 Types of Sampling

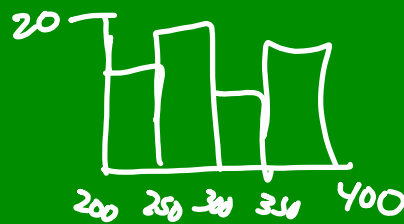Interview every 5th person in lunch system = Systematic

Picker wheel — random

Randomly select 10 flights into KC & interview <u>every</u> passenger = cluster

Convenience

Calculator problems

* Create histogram or box plot.

Window
X-axis: 200, 400
y-axis: 0, 20

Bin Settings (Under histogram prop.)

Width: 50
Alignment: 200

1-VAR STATS

Mean = $\bar{x}$

Median = Med

Mode = Sort column of data in order

1) Highlight column
2) Menu-Actions-Sort

Range = Max-Min

IQR = $Q_3 - Q_1$

St. Deviation = σ

By Hand

Mean $= \dfrac{\text{sum data}}{\text{\# of items}}$

Median = 35 items

$\dfrac{35}{2} = 17.5 \simeq 18^{th}$

$\dfrac{40}{2} = 20^{th} + 21^{st}$

$4 \cdot 70 = 280$

$\rightarrow 6 \cdot 80 = 480$

$\dfrac{2 \cdot 90}{12} = \dfrac{180}{940}$

Mean $= \dfrac{940}{12} = 7\_.\sim$

Median = Data must be
in order

$\dfrac{12}{2} = 6^{th} + 7^{th} = 80$

St. Deviation

$\{22, 38, 77, 83\}$

1) $\bar{x} = \dfrac{220}{40} = 55$

$22 - 55$

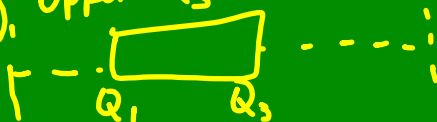$(-33)^2 + (-17)^2 + (22)^2 + (28)^2$

$33^2 + 17^2 + 22^2 + 28^2 =$

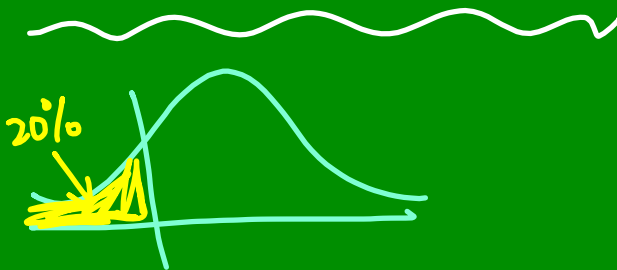$= \sqrt{\dfrac{\text{sum}}{4}} = \sqrt{\dfrac{2646}{4}} = \sqrt{661.5}$

$= 25.72$

Outliers

1) $IQR \times 1.5 = \#$

2). upper: $Q_3 + \#$

$Q_1 \qquad Q_3$

3) lower: $Q_1 - \#$

20%

What is cutoff for lowest 20%

Col. C
0.2000

4. $\dfrac{-0.84}{} = \dfrac{X - 24}{4}$
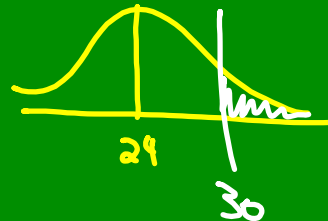
$-3.36 = X - 24$

$20.64 \text{ mpg} = X$

Normal Distribution

$$Z = \frac{X - M}{\sigma} = \frac{Raw - Mean}{St. Dev}$$

$\bar{X} = 24 \text{ mpg}$ | What % above 30 mpg
$\sigma = 4 \text{ mpg}$

24

30

Col. C
0.0668
= 6.68%

$$Z = \frac{30 - 24}{4} = \frac{6}{4} = 1.5$$

How many are above 30 mpg?

92 cars $\times$ 0.0668
=