V7 - Sampling Distribution Theory
Part 2

Course: Statistical Testing & Regression
Dr. Renee Clark
Swanson School of Engineering
Industrial Engineering
University of Pittsburgh
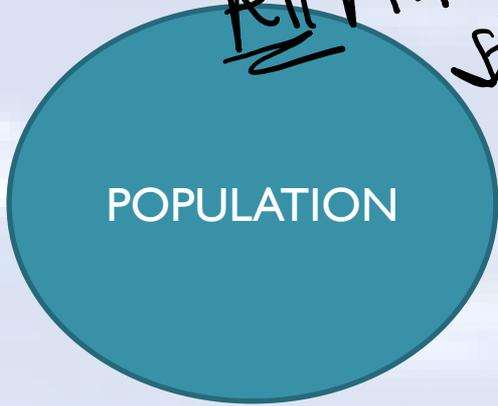
Sampling Distribution Theory – Part 2

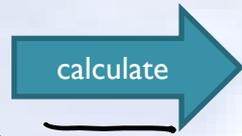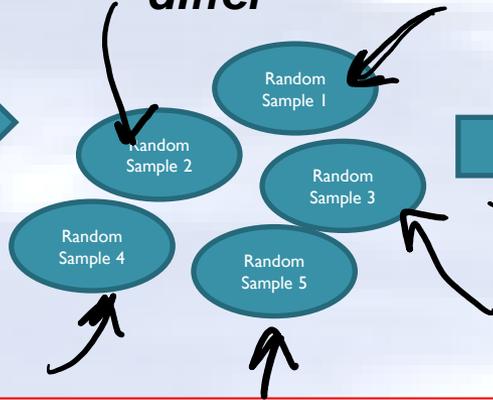❑ Statistics as random variables

❑ Define a sampling distribution

Different Random Samples

All Pitt undergrad students

$n=50$

Random Samples; differ
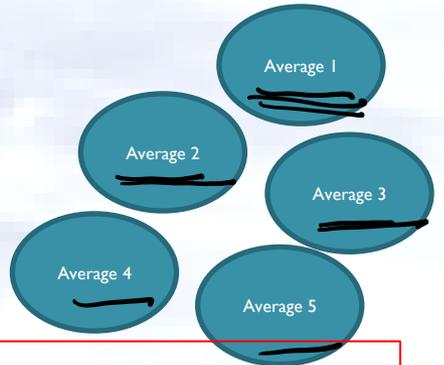
Calculate statistic for each sample (e.g., average)

POPULATION

sample

Random Sample 1

Random Sample 2

Random Sample 3

Random Sample 4

Random Sample 5

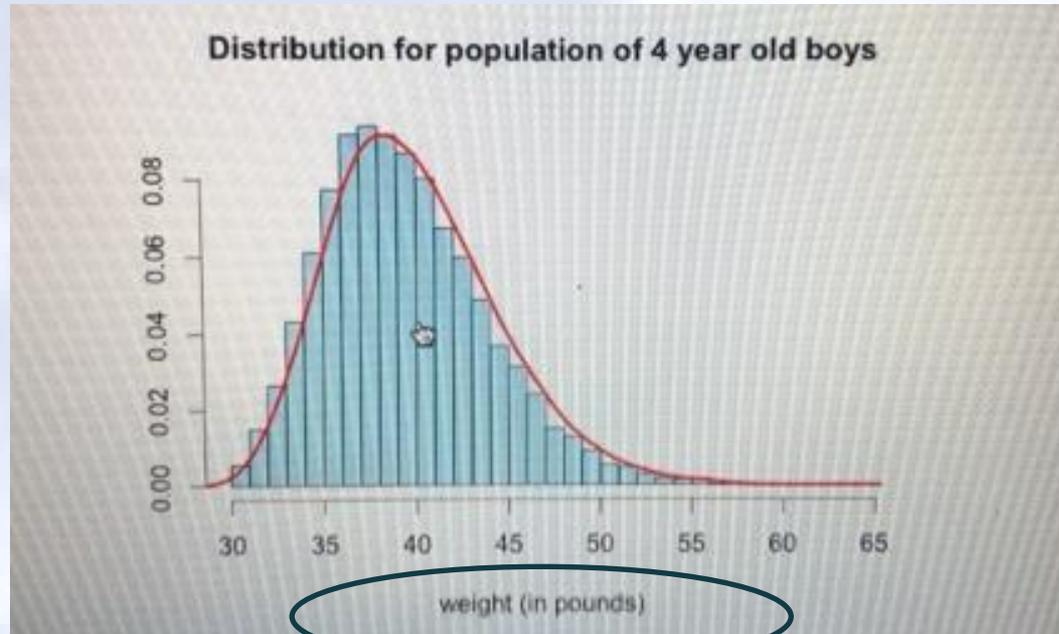calculate

Average 1

Average 2

Average 3

Average 4

Average 5

Statistics vary from sample-to-sample

→ *Statistics are* ___ random variables ___

A Random Variable has a....

Distribution

Distribution for population of 4 year old boys

weight (in pounds)

4

Since statistics are random variables…

they too have a _distribution_

It's known by the special term: _sampling distribution_

weights

5 different random samples

population distribution

Avg1=15.5
Avg2=16.0
Avg3=15.9
Avg4=16.8
Avg5=16.7

Plot these averages; form distribution

μ   X̄

sampling distribution of the mean

weight

Acknowledgement

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THE END