

What am I learning today?

**Main Ideas/
Questions**

Population vs
Sample

Notes

RECALL:

Population = The group of _____ that is being _____

Sample = A subgroup (a part) of the _____

KEY SYMBOLS:

$\mu =$ _____ $\sigma =$ _____ $\bar{x} =$ _____

Hypothesis
Statements

Null hypothesis – A statement **about** the _____ or the 'true mean'.
It tries to state what is 'commonly' _____. It attempts to show that a
variable is _____ than its mean. It is assumed to be true
UNTIL there is _____ to show that it should be rejected and to
use the alternative hypothesis.

****Denoted H_0

****The statement **MUST** include one of the following words:

Alternative hypothesis – States the _____ of the null
hypothesis using a given _____. This is something that is _____
commonly accepted or claimed. The variable is _____ from its
mean.

****Denoted H_A

****The statement **MUST** include one of the following words:

Hypothesis
Statements

How to write a hypothesis statement:

1. Decide what is _____ or the 'true mean'
2. Decide what _____ was taken
3. Write your null hypothesis about what they 'claimed' and write your
alternative hypothesis based on the sample and how it _____ to the
claim.

**Main Ideas/
Questions**

Examples

Notes

Example 1: The Spud Potato Chip company claims that their bags of chips contain 28.3 grams of chips. You decided to conduct an investigation and find that they mean weight of the chips in your sample is 25 grams.

Write your hypothesis statements **in words**:

H_0 : The true mean

H_A : The true mean

Write the hypothesis statement **in symbols**:

$H_0 : \mu$

$H_A : \mu$

P-value Test

P-Value (1-tailed hypothesis tests) – The _____ of obtaining a result either _____ or “more extreme” (higher or lower) than what is actually observed (_____)

How to calculate a p-value:

- 1) Compute the _____
- 2) Use the _____ table to find the probability
- 3) Compare to a significance level (α)

Test Results – MUST HAVE A SIGNIFICANCE LEVEL

Example: $\alpha = 0.05$ (_____%)

**If the p-value is _____ 0.05 \rightarrow “_____”
the null hypothesis

**If the p-value is _____ 0.05 \rightarrow _____ the null hypothesis

Examples: - State if the null hypothesis should be rejected given the p-value

- | | |
|-------------------------------|--------------------------------|
| 1. $\alpha = 0.05 ; p = 0.04$ | 2. $\alpha = 0.05 ; p = 0.051$ |
| 3. $\alpha = 0.01 ; p = 0.02$ | 4. $\alpha = 0.08 ; p = 0.30$ |

