Hypothesis Testing (Mean)

- σ Known
- σ Unknown

Test for a Mean (σ Known)

- Use z
- The rest of the process is the same

$$z = \frac{x - \mu}{\sigma / \sqrt{n}}$$

Hypothesis Test for a Mean

- Suppose that the acceptable average pollutant level for drinking water is 30 ppm. Based on known observations the standard deviation is 7ppm. A study was done by STPUD where they took 45 water samples and found the average pollutant level was 31.5 ppm. What can be concluded at the 0.10 level?

Hypothesis Test for a Mean

- Before an education campaign took place Tahoe residents threw out an average of 15 items of recyclable trash per week. The standard deviation was 6 items. Sixty residents' trash cans were examined after the campaign took place and the mean was found to be 14 items. What can be concluded at the 0.05 level of significance?

Test for a Mean (σ Unknown)

- Use t
- The rest of the process is the same.

$$t = \frac{x - \mu}{s / \sqrt{n}}$$

Hypothesis Test (σ Unknown)

- For women a BMI greater than 25 is considered overweight. A researcher wants to determine if the average woman is overweight. 55 women were measured and their average BMI was 25.3. The standard deviation was 5. What can be concluded at the 0.05 level?

Hypothesis Test (σ Unknown)

- Do people get enough vegetables? The FDA recommends at least 3 servings a day. A researcher wants to see if the average number of servings is less. She surveys 75 people and finds they average 2.5 servings per day and their standard deviation is 1.4 servings. What can be concluded at the 0.05 level?