

Hypothesis Testing

For the Mean

$$H_0: \mu = \mu_0$$

For the Proportion

$$H_0: p = p_0$$

Step 1: State H_0 and H_a

Step 2: State α = level of significance

Step 3: Test statistic

Mean

Proportion

σ given

$$z = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$$

σ not given

$$t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$$

$$df = n - 1$$

$$z = \frac{\hat{p} - p}{\sqrt{\frac{p(1-p)}{n}}}$$

Step 4

p-value

Step 5

Conclusion

Reject H_0 if p-value $< \alpha$