

HOMEWORK: STATISTICAL INFERENCE (P)

ONE-SAMPLE Z TEST FOR PROPORTION (P)

PROBLEM 1:

A researcher claims that at most 10% of smokers will develop lung cancer. A sample of 600 smokers is drawn and 88 developed lung cancer.

- (a) Test at  $\alpha = .01$
- (b) Construct a 99% 2-tail Confidence Interval. No claim was made.

PROBLEM 2 :

A college claims that no more than 15% of their students are receiving financial assistance. An auditor takes a sample of 200 students and finds that 42 are receiving aid.

- (a) Test at  $\alpha=.05$
- (b) Construct a 95% 2-sided Confidence Interval. No claim was made.

PROBLEM 3:

A defense company working for the government claims that at most 5% of its missiles are defective. A sample of 200 missiles is taken and 18 are defective.

- (a) Test the company's claim at  $\alpha = .05$
- (b) Construct a 95% 2-sided Confidence Interval. No claim was made.

PROBLEM 4:

A college claims that at most 2% of its students will plagiarize a term paper. A sample of 150 student papers is taken and 12 show signs of plagiarism.

- (a) Test the college's claim at  $\alpha = .01$
- (b) Construct a 90% 2-sided Confidence Interval. No claim was made.