

Answer on Question #54871 – Math – Statistics and Probability

From the list of 500 names and addresses, 100 names are selected without replacement and 25 wrong addresses were found. Identify the population and estimate the total no. of addresses needing correction in the list. Also estimate the standard error of the estimate.

Solution

The population is the list of 500 names and addresses.

The total no. of addresses needing correction in the list is

$$500 \frac{25}{100} = 125.$$

$$p = \frac{25}{100} = 0.25.$$

The standard error of proportion is

$$SE = \sqrt{\frac{p(1-p)}{n}} = \sqrt{\frac{0.25(1-0.25)}{100}}.$$

The standard error of the estimate is

$$500 \sqrt{\frac{0.25(1-0.25)}{100}} = 21.65.$$