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4.18 Population tests

Checklist

What you should know

By the end of this subtopic you should be able to:

- carry out a hypothesis test for the mean of a normally distributed random variable

- calculate critical values and critical regions for random variables that follow a normal distribution, a binomial distribution, or a Poisson distribution

- carry out a hypothesis test for population proportion using the binomial distribution

- carry out a hypothesis test for the mean of a random variable that follows a Poisson distribution

- carry out a product moment correlation coefficient test to determine whether two bivariate normally distributed variables are correlated with each other

- use the product moment correlation coefficient test to determine whether producing a least-squares regression equation is appropriate

- describe type I and type II errors in hypothesis tests

- calculate the probability of a type I or a type II error occurring for any one-tailed hypothesis test.

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