

B2

$$\bar{X} = 6.7$$

$$S_x = 1.9$$

$$\alpha = 5 \%$$

$$n = 300$$

Population

Aquatics Paint Customers

Focus Proportion

Preference score for Lush Lime

Step I Identify Procedure:

We want to estimate the mean for **preference score for Lush Lime** in the population of **Aquatics Paint Customers (μ)**.

Step II Check Conditions:

Random Sample: A **random sample** was conducted to insure every member of the population was equally likely to be selected.

Normal Sample Distribution: The sampling distribution of all the possible sample proportions has an approximately **normal** shape because the sample was of sufficient size, over 30 (per the **Central Limit Theorem**).

Independence: The lack of replacement is not a problem in this case because the number of subjects in the population is more than 10 times the sample size.

Step III Perform Procedure:

Estimate		Margin of Error		
6.7	+/-	0.2		
95% Confidence Interval Ranges From		6.5	to	6.9

Step IV Interpretation:

We are 95% confident that the mean for preference score for Lush Lime in the population of Aquatics Paint Customer (μ) falls between 6.5 and 6.9.

