$\bar{X}_1 =$ _____ S_{x_1}= _____ α = ____% n_1 = ____ n_2 = ____

$\bar{X}_2 =$ _____ S_{x_2}= _____

Subpopulation #1 ____

Subpopulation #2 ____

Quantitative Variable ____

Step I Identify Procedure:

We want to test the evidence against the claim that the mean for ______________________________ in the population of ________________________ (___) is equal to the mean for ______________________________ in the population of ____ (___).

The null and alternative hypotheses are:

H_0: $\mu_1 = \mu_2$

H_A: μ_1 ◯ μ_2

Step II Check Conditions:

* **____________ ______________: Both ____________ ____________ were conducted to insure every member of BOTH populations were equally likely to be selected.**

* **_____________ Sampling Distribution: The sampling distribution of all possible sample difference of means has an approximately _____________ shape because the sample was of sufficient size, over 40 (per the ___________ ____________ Theorem).**

* **______________________: The lack of replacement is not a problem in this case because the number of subjects in the population is more than _____ times the sample size. The two samples are _________________.**

Step III Perform Procedure:

T-statistic = __________ per EXCEL

$P - value = P(\bar{X}_1 - \bar{X}_2$ ◯ _____ $| \mu_1 = \mu_2)$ = _____% **compared to significance level (___) of _____%**

Step IV Interpretation:

We fail to reject the null hypothesis at the ______% significance level (___). The P-value of ________% shows that an observed diffence in the sample means as extreme as ________ (___ - ___) would be expected to occur ________% of the time, and thus mere chance could explain the difference between the two sample means even if no true difference existed in the population means ($\mu_1 = \mu_2$). We cannot say that the mean for ________________________ in the population of __________________ (___) is not equal to the mean for ________________________ in the population of ________________________ (___).

OR

We reject the null hypothesis at the ____% significance level (___). The P-value of ______% falls (just below OR well below) the significance level, thus there is (moderate OR strong) evidence that the alternative hypothesis is true, the mean for ________________________ in the population of ___________________________ (___) is __________ than the mean for ___________________________ in the population of __________________________ (___).