2-Sample Confidence Intervals

STEP	Sample Proportions	Sample Means
State	We want to find the true difference in proportion of _____ (include the order) with ___% confidence. p_1 = _____ p_2 = _____ $\hat{p}_1$ = ___ $\hat{p}_2$ = ___	We want to find the true difference in mean of _____ (include the order) with ___% confidence. μ_1 = _____ μ_2 = _____ $\bar{x}_1$ = ___ $\bar{x}_2$ = ___
Plan	Check the following conditions: **Random**: Check to make sure the samples were taken randomly and are independent. **10% condition**: Check to make sure that 10 times our sample is less than the entire population FOR BOTH SAMPLES. **Large Counts**: $n_1\hat{p}_1 \geq 10$ $n_1\hat{q}_1 \geq 10$ $n_2\hat{p}_2 \geq 10$ $n_2\hat{q}_2 \geq 10$ *Because our conditions are met, we will use a 2-sample z-interval for difference of two proportions $p_1 - p_2$ (or whatever order you subtracted).*	Check the following conditions: **Random**: Check to make sure the samples were taken randomly and are independent. **10% condition**: Check to make sure that 10 times our sample is less than the entire population FOR BOTH SAMPLES. **Normal/Large**: $n_1 \geq 30$ $n_2 \geq 30$ If n < 30 for either sample, we must look at a graph of our data: • Rough sketch • No strong skewness • No outliers *Because our conditions are met, we will use a 2-sample t-interval for difference of two means $\mu_1 - \mu_2$ (or whatever order you subtracted).*
Do	On the calculator, choose: STAT → TESTS → B: **2-PropZInt** **x1:** **n1:** **x2:** **n2:** **C-Level:** Calculate (____, ____)	On the calculator, choose: STAT → TESTS → 0: **2-SampTInt** **$\bar{x}$1:** **Sx1:** **n1:** **$\bar{x}$2:** **Sx2:** **n2:** **C-Level:** **Pooled: No Yes** Calculate (____, ____) Also include: **df =** ____ $\boldsymbol{t^*_{df}}$ **=** ____
Conclude	We are ___% confident that the interval from (____, ____) captures the true difference in proportion of _____.	We are ___% confident that the interval from (____, ____) captures the true difference in mean of _____.