2009 Q4

(a) 1) 2-Sample t interval ← (Note: always state clearly what inference procedure you are performing)

2) Conditions

✓ • SRS? The problem states both samples are "random samples" of calls.

✓ • n<10% pop? 50<10% of all calls (we can assure samples are independent)

✓ • grps indp? we can assure no connection between calls at the 2 stations.

✓ • Samples nearly normal? with n=50 for both samples we can assure both are nearly normal due to large sample size

3) perform a 2-SampTInt in a TI-84

using $\bar{x}_1 = 4.3$ $\bar{x}_2 = 5.3$ C-level = .95

$s_{x1} = 3.7$ $s_{x2} = 3.2$ Non-pooled)

$n_1 = 50$ $n_2 = 50$

result (-2.373, .37323) w/ df = 96.0045

4) we are 95% confident that the difference in mean call times ($\mu_{north} - \mu_{south}$) is between -2.373 and +0.373 minutes.

(NOTE: include difference wording with direction and 'mean' or 'on average')

↑ organize your work (work from top to bottom)

(b) No, because the council member believes the fire stations have different mean response times, but a difference of 0 is within the confidence interval.