2006 Q4

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

2) Conditions

✓ • SRS? The problem states this is a "random sample" of patients.
✓ • n<10% pop? 150< 10% of all heart-attack patients (we can assume samples are independent)
✓ • groups are indep? these are separate patients, assume no connections b/w patients
✓ • Samples nearly normal? with n=77 and n=73 we can assume both samples are nearly normal based on the large sample sizes.

3) perform a 2-SampTInt in a Ti-84 using

$\bar{x}_1 = 6.04$ $\quad \bar{x}_2 = 8.30$ $\quad$ C-level = .99
$Sx_1 = 4.30$ $\quad Sx_2 = 5.16$ $\quad$ (non pooled)
$n_1 = 77$ $\quad n_2 = 73$

result: (−4.291, −.2291) ambulance − self, equivalent to (.2291, 4.291) self − ambulance

4) We are 99% confident that people who self transport w/ heart attack symptoms wait between .2291 and 4.291 minutes longer to begin receiving treatment than patients transported by ambulance, on average

(NOTE: include difference, direction, & mean or on average)

↑ organize your work (work from top down, step-by-step)

(b) μ_A = mean wait times for ambulance transported patients
μ_S = mean wait times for self transported patients

$H_0: \mu_A = \mu_S$

$H_A: \mu_A \neq \mu_S$

Because 0 is not within our 99% confidence interval, with $\alpha = .01$ we reject Ho.
sufficient statistical evidence to conclude that we do have sufficient statistical evidence to conclude that the difference in mean wait times is statistically significant.