Math 110 Final Exam Review

#36. Cadence for men: $\bar{x} = .951$, $s = .049$, $n = 14$
One population mean test (μ) (σ unknown)

#37 $H_1: \mu > 0.92$, $H_0: \mu = 0.92$

#38 Sample size, $n = 14$, is too small, but the histogram is roughly bell shaped giving some evidence for normality.

#39
$$T.S.: t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{.951 - .92}{.049/\sqrt{14}} = 2.367$$

Critical Value
(Right Tail Test
$H_1: >$)

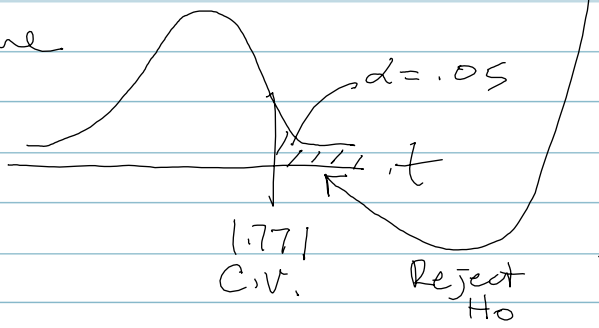
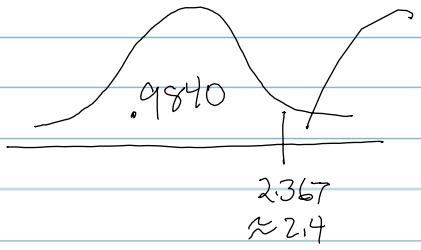


Table A2
df → n − 1 = 13 → 1.771
α = .05 one-tail → 1.771

#40 t-Pval — Table A3
df → 13
TS → 2.367 ≈ 2.4 → .9840



pval = 1 − .9840
pval = .0160

#41 pval < α → Reject H_0 & Support H_1

#42 The data support the claim that the mean cadence for men is greater than 0.92 strides per second.

#43 Type I Error — If the mean cadence is actually less than or equal to 0.92.