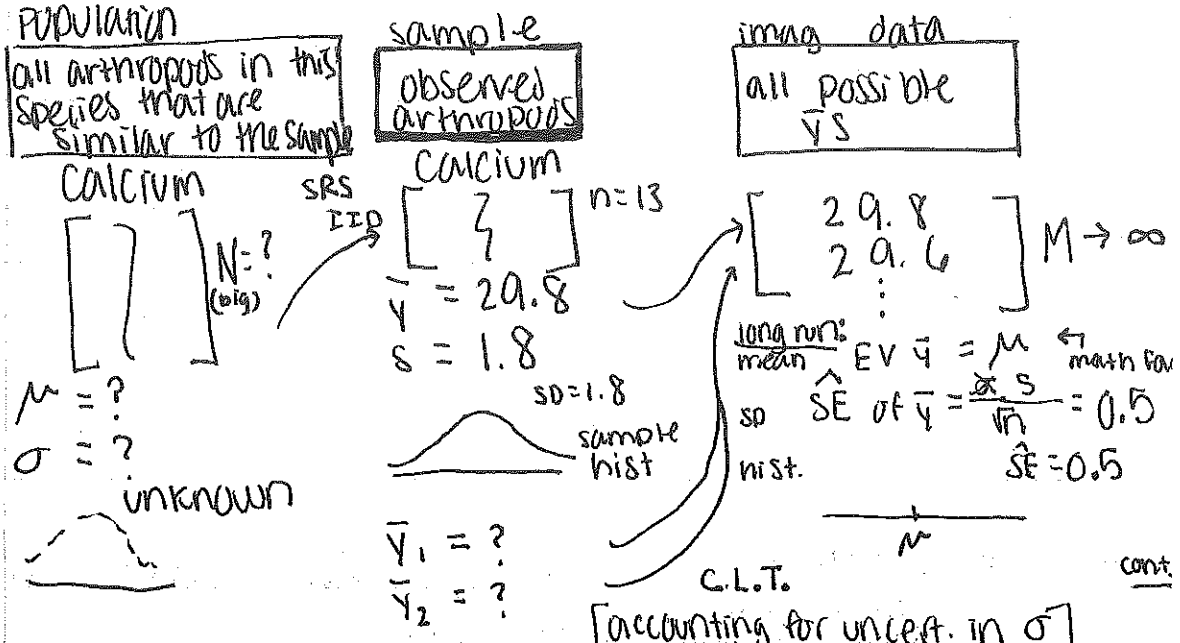
AMS 7
Disc. Section 5

R-6.11. (a) $\frac{32 - 29.8}{29.8} = \frac{\mu_0 - \bar{y}}{\bar{y}} = \frac{+2.2}{29.8} = 7.4\%$

Theory μ is 7.4% more than the $\bar{y}$.

To see sig - ask expert if 7.4% is sig

(b)



We know about sample, wondering about population → stat. inference

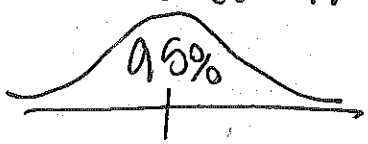
(vice versa is Probability)

inferential summary

pop	unknown pop quant	μ = pop mn
samp	estimate μ	$\bar{y}$ = 29.8
imag data	give / take for $\bar{y}$ as est. μ	$\hat{SE}(\bar{y})$ = 0.5 →
imag data	95% CI μ	29.8 ± 1.1 →

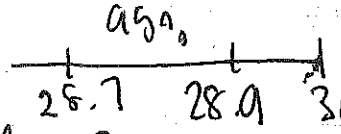
continued

→ t curve w/ 12 degrees of freedom: (n-1)
95% area in middle



$\bar{y} \pm t^{95\%}_{n-1}$

2.179 $= 29.8 \pm 1.1$



$M_0 = 32$ is not in 95% interval & is not supported by the data.

$M_0 - \bar{y}$ is stat sig 32 - 29.8 is big difference
This difference is hard to attribute to an unlucky random sample - this means that this difference is probably real.