

2010 Q5

- 1) μ_{BR} = mean fish length of fish from Buy-Rite (NOTE: define all symbols)
 μ_{FF} = mean fish length of fish from Fish-Friends

$H_0: \mu_{BR} = \mu_{FF}$

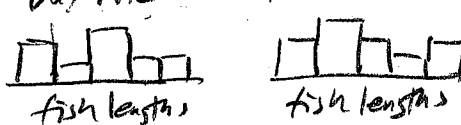
$H_A: \mu_{BR} < \mu_{FF}$

(NOTE: AP scores suggest only writing hypotheses in symbols w/symbols defined, not also in words, on the AP exam)

- 2) 2-sample t-test ← (note: always state clearly what inference procedure you are performing like this)

Conditions

- ✓ SRS? The problem states that are "random samples" of fish,
- ✓ n < 10% pop? 8 & 10 < 10% of the fish populations in these stores
- ✓ groups indep? we can assume there is no connection between the fish in the 2 stores

- ✓ samples nearly normal? Buy-Rite Fish Friends


no signs of skew or outliers in histograms of the samples.

- 3) perform a 2-SampTTest in a Ti-84 using Buy-Rite data in L1, Fish Friend data in L2, $\mu_1 < \mu_2$ with no pooling
result: $t = -.2586$
 $p\text{-value} = .3996$
 $df = 15.9997$

- 4) with $\alpha = .05$, $p\text{-value} = .3996$ is high, so we fail to reject H_0 .
We do not have sufficient statistical evidence to conclude that the mean length of adult fish of the species from Fish Friends is greater than the mean length of the adult fish of the same species from Buy-Rite pets.

↑ organize (don't have to literally number steps, but work from top down, step-by-step)