

Day 31

Example 1

$$H_0: \mu_B - \mu_A \geq 0$$

$$H_A: \mu_B - \mu_A > 0$$

$L_1 = L_2$ stools
Before - After = Diff.

think

✓ A/C

1. Independent Groups Assumption -

$$H_0: \mu_d = 0$$

$$H_A: \mu_d > 0 \text{ (did rates go down? } B - A > 0 \text{)}$$

Think

✓ A/C

1. Paired Data Assumption - same subject before and after.
2. Independence Assumption - no reason to believe subjects
Randomization Condition: affect each other
3. Population of Differences Normal Assumption
Nearly Normal Condition:
Histogram of Paired Differences

is unimodal and approx. symmetric
w/ no outliers.



Because A/C are met
OK to do a matched pairs t-test.

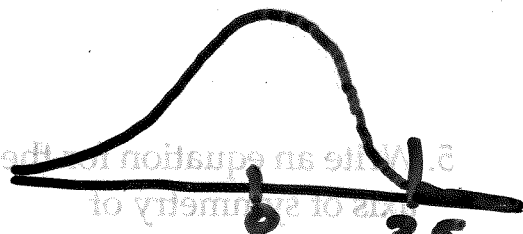
Show

$$t(2.8, 0.8, 9)$$

$$SE(\bar{d}) = \frac{2.53}{\sqrt{10}}$$

$$t = \frac{\bar{d} - 0}{SE(\bar{d})} = \frac{2.8 - 0}{0.8}$$

$$= 3.5$$



$$t \text{cdf}(3.5, 99, 9)$$
$$p\text{-value} = 0.0034$$

Tell