

Module 2C Questions:

1. Do scores on a test of science achievement differ for female and male 8th grade students who attend gender-segregated schools?

- a. Test one mean against a hypothesized constant.
- b. Test the difference between two means (independent samples).
- c. Test the difference in means between two paired or dependent samples.
- d. Use a chi-squared test of association.

2. Do boy/girl twins who attend the same school differ in reading achievement?

- a. Test one mean against a hypothesized constant.
- b. Test the difference between two means (independent samples).
- c. Test the difference in means between two paired or dependent samples.
- d. Use a chi-squared test of association.

2. For all B6 mice (M1, M2, M3, M4), is there a significant change in weight from baseline (Weight0) to 12 weeks (Weight12)?

3. A farmer decides to try out a new fertilizer on a test plot containing 10 stalks of corn. Before applying the fertilizer, he measures the height of each stalk. Two weeks later, he measures the stalks again. The stalks would have grown an average of four inches during that time even without the fertilizer. Did the fertilizer help? Use $\alpha = 0.05$

Stalk	1	2	3	4	5	6	7	8	9	10
Before	35.5	31.7	31.2	36.3	22.8	28.0	24.6	26.1	34.5	27.7
After	45.3	36.0	38.6	44.7	31.4	33.5	28.8	35.8	42.9	35.0