

# Concept Check #5

## HST 190: Introduction to Biostatistics

- The project is out-of-sync -- use ``renv::status()`` for details.

*This worksheet is open-note. Take 15 minutes to consider the following questions. We will discuss as a group.*

1. True or false: a two-sample hypothesis test for a difference of means for paired data can be considered a one-sample hypothesis test of the mean of the paired differences.
2. True or false: We are interested in the difference of means of two independent samples from populations which have different variances. It would be appropriate in this setting to use the “pooled” estimate of the standard deviation.
3. You are designing a study to evaluate a new treatment versus placebo using a standard unpaired two-sample test for a difference of means. You wish to estimate how many subjects to enroll in each group. Which of the following are factors to consider in your calculation?
  - a. Desired Type-I error rate
  - b. Size of the effect you hope to detect
  - c. Desired power
  - d. Standard deviations of each group
  - e. All of the above