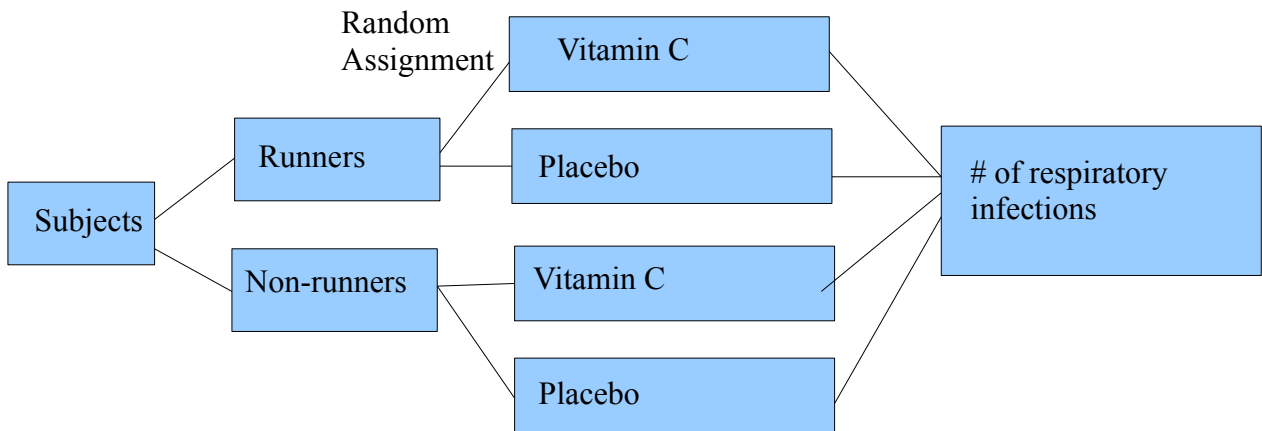


5.76

- (a) To answer this question, we wish to *observe* peoples' sentiments. Therefore we would conduct an observational study (survey) to try and measure their level of satisfaction.
- (b) This question lends itself to a designed experiment. The treatments would be a classroom course and an online course. By designing an experiment like this we could answer the question about which method *causes* better learning.
- (c) This question will be answered by an observational study that is not a survey. Students will simply secretly observe the wait times after questions for teachers randomly selected.

5.80

This is a blocked design, blocked on the variable “whether or not someone is a runner”.



“Significantly more” means, in this context, that more people in the placebo group developed infections than would be expected simply due to chance variation between the two groups.

5.84

- (a) A single run of this experiment means spinning the spinner twice and observing whether or not we get a number bigger than 5 on either or both spins.
- (c) Assign the digits 1-25 thus: 1-16 means we win, and 17-25 means we lose.
- (d) `randInt(1, 25, 20)`... This gave me 11 numbers between 1 and 16, so my sample proportion of number of wins is 11/20.

5.88

For this simulation, Assign digits 1-10 thus: 1-2 pass on first try, 3-10 fail on first try, then
 1-3 pass on first try, 4-10 fail on first try, then
 1-4 pass on first try, 5-10 fail on first try, then

For one repetition, generate 3 random numbers between 1 and 10, in order, then record whether she passes or not.

For my 50 trials, I obtained a sample proportion of passing $35/50 = 0.7$