

Chapter One Homework Student Solutions

1. (b) This is a subset of all Mt. SAC students – a sample.
3. (b) This is a sample of all goldfish.
5. (a) This is a statistic, computed from a sample.
7. (b) This is a parameter, computed from a population.
9. (b) Letter grades are qualitative.
11. (a) Calendar years are quantitative.
13. (a) The number of honors students is a discrete measurement.
15. (a) Change in your pocket is discrete, as fractions of a cent are impossible.
17. (c) Calendar years are interval measurements, as the zero year does not mean “no time.”
19. (d) Weights are ratio measurements, as a zero weight really means *nothing*.
21. (d) Numbers of people who commute together are ratio measurements, as zero again means *none*.
23. Temperatures in Celsius are interval measurements, as zero does not mean *no heat*.
25. The study is a self-interest study/conflict of interest, the sample is self-selecting (yielding selection bias) and the refusal rate is very high, so the sample is not random.
27. (b) This is an experiment, and the commercial is the treatment.
29. (a) This is an observational study.
31. Retrospective studies use old data, cross-sectional studies use data from a single moment in time, and prospective studies gather data into the future.
33. Double blinding is important so that the people interacting with patients cannot betray information about who is receiving placebo, which would destroy the effect of the control group.
35. (a) Sampling error is due to the very act of sampling.
37. (d) This is a cluster sample, as not all colleges are being selected.
39. (c) This is a stratified sample, as students are selected from each college.
41. (c) Again, a stratified sample.
43. (a) This is a systematic sample.
45. This could not result in a random sample, as people from smaller states have a greater chance of being selected than people from larger states.