

Math C067 — Practice Test
Open Book, Open Notes, Open Teacher

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1. A coworker has designed a study with sample size 100. His margin of error is 5%. Which of the following sample sizes would give him a margin of error of roughly 1%?
(a) 20 (b) 50 (c) 500 (d) 1000 (e) 2500 (f) 5000
2. The College Board has designed a new test. Six randomly chosen subjects obtained scores of 7, 9, 10, 10, 11, 13.
 - (a) Find a 99% confidence interval for the mean test score in the entire population of test takers.
 - (b) For a margin of error of 0.4 what would be your confidence level?
 - (c) The College Board sampled 10,000 subjects. Assuming they got the same mean and standard deviation as in the 6-person sample, give a 99% confidence interval for the mean test score in the entire population.
 - (d) How large a sample would you need in order to get a margin of error of 0.03 with 99% confidence?
3. You have been assigned to predict the results of a 2-candidate election. What sample size would you need in order to ensure a 4% margin of error with 95% confidence?