Math 201: Exam 3 Topics:

Chapter 5: The Binomial Distribution: Table / Formula. nCx ∙ px ∙ qn ─ x or use the table when n ≤ 20 and p is in the table.

Chapter 6: The Normal Distribution: Terminology – probability density curve, normal curve, normal distribution, standard normal curve and distribution, area under the curve, z-scores, standard error, standardization, Central Limit Theorem.

* z-score: z = z-scores and area(s) under normal curve
* Standardization of the normal curve.
* Sampling Distributions and the Central Limit Theorem (CLT). Mean and standard deviation (standard error) of the sampling distribution. When and how to use the CLT. z =
* Finding X-scores from given areas under the normal curve (inverse/backwards use of the table).

Chapter 7: Confidence Intervals: Terminology – Confidence Intervals (C.I.s) for a Population Mean and Proportion, standard deviation known or unknown, confidence level, critical value, interpretation of a confidence interval, point estimate, Margin of Error, Standard Error, Interpretation of a C.I., z- and t- distributions, degrees of freedom, population proportion p, sample proportion = x/n.

* Finding a confidence interval for a population mean, population standard deviation known.

± critical value \* standard error

* Finding a confidence interval for population mean with population standard deviation unknown.

, df = n − 1

* Finding a confidence interval for a population proportion.

OR

* When to use the z- table and the t-table.
* Finding sample size n for a given margin of error.

**Sample size for mean** n = where M.E. is the margin of error

**Sample Size for proportions:** n **=** p̂ ()2