(possibly incomplete list of)

Topics Covered from Chapter 4 to 7 and Confidence Intervals

Chapter 4: Probability

Sample Point, Sample Space, Event

$P(A \cup B) = P(A) + P(B) - P(A \cap B)$ how to use these
$P(A \cap B) = P(A)P(B|A)$

Complement
Mutually Exclusive their definitions and how they affect the multiplication rule,
Independent addition rule, and conditional probabilities
Conditional Probability

Chapter Five: Discrete Random Variables

Random Variable, Discrete Random Variable, Probability Function

Mean (of a discrete random variable)
Expected Value (of a discrete random variable)
Variance (of a discrete random variable)
Standard Deviation (of a discrete random variable)

if given the probability function, how to calculate them, and what they tell us about the variable

Recognize when something follows a binomial distribution, know what the parameters mean, and how and when we would use them. Recognize the formulas for the mean and variance of a binomial distribution.

Factorials and using division to cancel out orderings we aren't concerned with
Binomial Coefficient

Chapters Six: The Normal Distribution

Changing a Normal to a Standard Normal you need to remember $z = (x - \mu)/\sigma$
Be able to use a normal table to calculate probabilities for a normal random variable.
The normal approximation to the binomial, including the continuity correction and how large n needs to be

Chapter Seven: Sampling Distributions

What a sampling distribution is
That the central limit theorem "works better" the larger n is
Using the central limit theorem if given the formula

Confidence Intervals (8.1-8.2, pg. 369-375, pg. 386-392)

Calculating confidence intervals for the population mean and population proportion, interpreting them, and the assumptions needed to trust them.
Using a t-table and how the how a t distribution compares to a normal distribution (pg. 369)
How you can calculate the sample size you need to get a certain accuracy from a confidence interval
Why we have to use $\hat{p}$ instead of p in the ± part of the approximate 95% CI for the population proportion

Formulas you will be given:

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$$P(A \cap B) = P(A)P(B \mid A)$$

$$\mu = \sum xP(x)$$

$$\sigma^2 = \sum (x - \mu)^2 P(x)$$

$$\binom{n}{x} = \frac{n!}{x!(n-x)!}$$

$$P[X = x] = \binom{n}{x} p^x (1-p)^{n-x}$$

$$\mu = np$$

$$\sigma^2 = np(1-p)$$

$$z \approx \frac{\sum x_i - n\mu}{\sqrt{n}\sigma} = \frac{\bar{x} - \mu}{\sigma / \sqrt{n}}$$

$$z \approx \frac{\sum x_i - np}{\sqrt{np(1-p)}} = \frac{\hat{p} - p}{\sqrt{\frac{p(1-p)}{n}}}$$

$$\bar{x} \pm z_{\alpha/2} \frac{\sigma}{\sqrt{n}}$$

$$\bar{x} \pm t_{\alpha/2} \frac{s}{\sqrt{n}}$$

$$\hat{p} \pm z_{\alpha/2} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$