• The test will be on **Thursday, April 24** from **8:00–10:00 AM** in our usual classroom.

• No calculators. (You won’t need one anyway.)

• You must show your work. No credit will be given if no work is shown. Partial credit will be given for partially correct solutions.

• You may bring a 3 × 5 index card with notes.

• The test will be cumulative; everything we have studied this semester is fair game. I suggest looking over previous tests, homework assignments, and study guides.

• For reference: Exam 1 covered chapter 1. Exam 2 covered chapters 2, 9, and 4. The last part of the semester has covered chapters 5, 6, and 7. We have covered only certain sections from these chapters.

• If your score on the portion of the final covering chapters 2, 9, and 4 is higher than your score from exam 2, I will replace the exam 2 score with the score on that section of the final.

• Class on Wednesday will be optional: I will return homework and answer questions about topics from the semester.

• Office hours this week will be Monday 1:30–2:30, Tuesday 2:00–3:00, and Wednesday 2:00–3:00.

**Review for material since exam 2:**

**Chapter 5**

– Write proofs by induction
– Use strong induction
– Use structural induction

**Chapter 6**

– Use product, sum, difference, and quotient rules
– Count permutations and combinations
– Count permutations and combinations allowing repetition and accounting for indistinguishable objects

**Chapter 7**

– Calculate the probability of an event
– Calculate conditional probability
– Determine whether two events are independent