

Test #3 will be given on Wednesday, April 25. It will include material from Sections 7.1, 7.2, 7.3, 7.4, 4.2, 4.4, 4.5, and 4.6.

**BE SURE TO BRING YOUR CALCULATOR TO THE TEST. SHARING OF CALCULATORS DURING TESTS IS NOT PERMITTED.**

**IMPORTANT REMINDERS**

**MAKEUP POLICY:** If you know in advance that you have to miss a quiz or test, you can make arrangements with me to take the quiz or test **before** it is given in class. Otherwise, no makeup quizzes will be given. If you miss an hour test, it may be made up only if you

- Do not have more than one unexcused absence during the time period covered on the test.
- Contact me on or before the scheduled test date.
- Can prove that you have a legitimate excuse.
- Show me all homework on the relevant material.

**If you do not meet these conditions, you will not be permitted to take a makeup test and the percentage equivalent of your final exam grade will be substituted for the grade of the missed test. No student will be permitted to take more than one makeup test.**

**ACADEMIC HONESTY:** All students are expected to do their own work on quizzes and tests. Students are expected to observe the following rules during any test or quiz.

- Students may not use or even hold a cell phone or any other electronic device.
- Students may not speak to or share materials with other students.
- Students should have all materials ready at the beginning of the quiz or test.
- Students should remain in the room during the entire test or quiz.

Appropriate penalties will be imposed for breaches of academic honesty.

**FOR THIS TEST, YOU SHOULD BE ABLE TO**

- Construct the sample space for a given experiment.
- Determine whether a probability assignment is acceptable for a given sample space.
- Determine the probability of a simple or compound event if the sample space is known.
- Determine an empirical probability based on given data.
- Determine whether two events are *mutually exclusive*.
- Determine the probability of the occurrence of event A **or** event B. This may require using the principle  $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ .
- Use the relationship between the probability of an event and the probability of the complement of that event, that is  $P(A) + P(A') = 1$ , to solve problems.
- Recognize when a problem involves a conditional probability and use the definition of the conditional probability of an event to solve such problems.
- Use the Product Rule for Probability:  $P(A \cap B) = P(A) \cdot P(B|A)$ , to determine the probability of sequential events A and B. It is often useful to draw a probability tree in such problems.

- Determine whether two events A and B are *independent* by using one of the following:
  - (1) A and B are independent if and only if  $P(A) = P(A|B)$
  - (2) A and B are independent if and only if  $P(A \cap B) = P(A) \cdot P(B)$ .
- Use Bayes' Formula, along with a probability tree, to determine the probability of an earlier event, given that a later event is known to have occurred.
- Identify the size of a matrix
- Identify an element of a matrix if the position of the element is given
- Determine whether addition, subtraction, and multiplication are defined for given matrices
- Add, subtract, and multiply matrices using a calculator
- Solve problems involving matrices containing letters. This may involve multiplying matrices without using a calculator
- Determine whether two matrices are inverses of one another
- Find the inverse of a matrix using a calculator
- Encode and/or decode messages using matrices and inverses
- Write a system of equations in matrix form and solve the system using inverses

### SUGGESTED REVIEW EXERCISES

**Chapter 7 Review** (p. 485)/ 1, 3, 4, 6, 7 (do probability only - not odds), 9 – 25, 30 (Hint for #30: Write the sample space), 34, 36, 37, 39, 40, 41, 42, 44, 45, 46, 53, 61, 62, 63, 66 (Hint for #66: First find the probability that the shipment will not be returned), 68, 69

**Chapter 4 Review** (p. 267)/ 4, 5, 6 – 14, 33, 34 (You do not have to eliminate decimals first in #34 since you can find the inverse on your calculator), 52

**You should also go over all homework, quiz, and worksheet problems.**

**In addition, MA 110 Practice Quizzes for Sections 7.1 – 7.4 are available on the internet. To access these quizzes, go to the course website and click "MA 110 Practice Quizzes."**