

QUIZ 9

Instructions: Put your name in the blanks above. Put your final answers to each question in the designated spaces on these pages. Show all your work!

- (1) 4 points A 12-sided die with faces numbered 1 through 12 is used in the game Dungeons and Dragons. If such a die is tossed, what is the probability that the number that lands on top is
- (a) The number 8?
 - (b) An odd number?
 - (c) A number less or equal to 5?
 - (d) A two-digit number?
- (2) 6 points Let E and F be events such that: $P(E) = 0.5$, $P(F) = 0.4$, $P(E \cup F) = 0.7$.
- (a) Draw a Venn diagram with this information.
 - (b) Compute $P(E \cap F)$.
 - (c) Compute $P(E | F)$.
 - (d) Compute $P(F | E)$.
 - (e) Are the events E and F independent? Why, or why not?

- (3) 4 points A basketball player shoots a free throw percentage of 80%. What is the probability that he will make at least one of three free throws?
- (4) 6 points Of the students at a New England college, 40% take Math courses, 25% are Seniors, and 10% are Seniors who take Math courses. Suppose a student is selected at random.
- (a) Draw a Venn diagram with this information.
- (b) What is the probability that the student is not a Senior and takes no Math courses?
- (c) What is the conditional probability that the student is taking a Math course, given that the student is a Senior?
- (d) What is the conditional probability that the student is a Senior, given that the student is taking a Math course?