

LAST NAME (Print): _____ FIRST: _____

Statistics 111 **Quiz 5**

- _____ 1. Suppose Mensa only accepted people in the top 1% of IQ score. What score would you need? (Assume that IQs are approximately normally distributed with mean 100, sd 16.)
- _____ 2. For an exam, you need a working calculator and a writing utensil. Your calculator has probability 0.3 of failing. Your pencil has probability 0.4 of breaking. And your pen has probability 0.5 of being dry. What is the probability that you pass?
- _____ 3. In how many visually distinct ways can five children line up at a water fountain, if three of the children are identically dressed identical triplets?
- _____ 4. What is the chance of holding exactly three hearts when dealt five cards from a standard deck?
- _____ 5. Suppose that 80% of freshmen eat on campus, as do 40% of sophomores, 30% of juniors, and 10% of seniors. And assume the school has 1000 freshmen, 800 sophomores, 800 juniors, and 600 seniors. If you meet someone at the Marketplace, what is the chance that she is a sophomore?
- _____ 6. You decide not to stop playing the Minefield game until you win. Each time you play, you have a 10% chance of winning. What is the probability that you stop on the fourth game?
- _____ 7. You play ten games of solitaire. Each time, you have probability 0.2 of winning. What is the probability that you win three or more games?
8. On average, class is interrupted by 2.3 phone tones each lecture.
- _____ What is the probability of exactly three such interruptions in the next lecture?
- _____ What is the probability of at least one interruption?
- _____ 9. What is the probability that no one, among four people, was born in the same month? Assume equal birth rates in all months.