# MATH 112 Post-Exam 2 Practice 

Professor Goldin

1. There are 25 students in a class. Assuming no one is twins and no one is born on February 29, what is the probability that at least two people have the same birthday?
2. A bin is filled with half red balls and half purple balls. Approximately $20 \%$ of the red balls have a stripe on them, and the others do not. Approximately $90 \%$ of the purple balls have a stripe on them, and the others do not. A ball is randomly selected, and it is striped. What is the probability it is purple?
3. A survey is done at universities in the United States on their feelings about olives and beets. About $34 \%$ of the population likes olives, while $25 \%$ of the population likes beets. A total of $45 \%$ of the population likes at least one of them. A random person is selected.
(a) Let O be the event that the person likes olives and B be the probability that the person likes beets. What event, in terms of O and B , has probability $45 \%$ ?
(b) What is the probability that the selected person likes both olives and beets?
(c) What is the probability that a person likes beets, given that he/she likes olives?
(d) Are "liking olives" and "liking beets" independent? Justify your answer.
