More Probability

CREDIT: The questions on this document were written by Erik Packard, PhD, Associate Professor of Mathematics at Colorado Mesa University.

- Problem 4

    - The probability a certain door is locked is 70%. The key to unlock the door is one of ten keys hanging on a key rack. You get to pick two keys before walking to the door. What is the probability that you will get through the door without returning for more keys?

- Problem 6

    - On a slot machine there are three reels with digits 0, 1, 2, 3, 4, 5, 6, a bell, and a flower. When a coin is inserted and the level pulled, each of the wheels spins independently and comes to rest on one of the nine digits/figures mentioned. Find the probability that exactly one flower shows.

- Problem 10

    - A company that makes greeting cards has three factories. Factory 1 produces 20% of the cards, Factory 2 produces 70% of the cards, and Factory 3 produces 10% of the cards. In Factory 1, 12% of the cards are birthday cards. In Factory 2, 20% of the cards are birthday cards. In Factory 3, 5% of the cards are birthday cards.

        A) What percent of the cards are birthday cards?

        B) If you purchase a birthday card, then what is the probability it was made in Factory 3?

- Problem 12

    - In an article entitled, "Why Quitting Means Gaining," in Time magazine it was reported in 1991 that giving up cigarette smoking often results in gaining weight. In a group of quitters (60% were men and 40% were women), the following results were found:

	Major Gain	Significant Gain	Moderate Gain	Slight Gain
Men	9%	14%	22%	55%
Women	12%	11%	27%	50%

        - If a person had a moderate gain, then what is the probability it was a man?

- Problem 15
    - In a math class, it is the case that 60% of the students do all the homework assignments. Of those that do all the homework assignments, 90% of them pass. Of those that don't complete all the homework assignments, 55% of them pass.
        - Lisa passed the class. What is the probability she did all the homework assignments?