

Problem 1. A coin is flipped ten times.

- (a) What is the probability of obtaining at least eight heads?

- (b) What is the probability that the first three flips are heads?

- (c) What is the probability of obtaining at least eight heads, given that the first three flips are heads?

Problem 2. A die is rolled five times.

- (a) What is the probability of obtaining at least three consecutive rolls of the same number?

- (b) What is the probability all rolls are less than five?

- (c) What is the probability of obtaining at least three consecutive rolls of the same number, given that all rolls are less than five?

Problem 3. Five cards are dealt from a shuffled deck.

- (a) What is the probability that at least three of them are from the same suit?

- (b) What is the probability that none of them are spades?

- (c) What is the probability that at least three of them are from the same suit, given that none of them are spades?

Problem 4. Three cards are dealt from a deck.

- (a) What is the probability that all are face cards?
- (b) What is the probability that all are hearts?
- (c) What is the probability that all are face cards and are hearts?
- (c) What is the probability that all are face cards, given that all are hearts?

Problem 5. At East Podunk State Teacher's College, the Underwater Basketweaving class reached capacity, with 40 total students. The number of students of a given gender (M or F) or grade (A, B, or C) is given in the chart below.

	A	B	C
M	3	8	5
F	11	12	1

A student is selected from the class at random

- (a) Find the probability that the student is male.
- (b) Find the probability that the student is getting a B.
- (c) Find the probability that the student is a male who is getting a B. Are these events independent?
- (d) Find the probability that the student is getting an A, given that the student is a female?