

**Mutually Exclusive Events**

**Problem 1.** A coin is flipped ten times. What is the probability of obtaining at least eight heads?

**Problem 2.** A die is rolled five times. What is the probability of obtaining at least three consecutive rolls of the same number?

**Problem 3.** Five cards are dealt from a shuffled deck. What is the probability that at least three of them are from the same suit?

### Independent Events

**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? Are these events independent?

**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 a C.
- (e) Find the probability that the student is a male who is getting a C. Are these events independent?