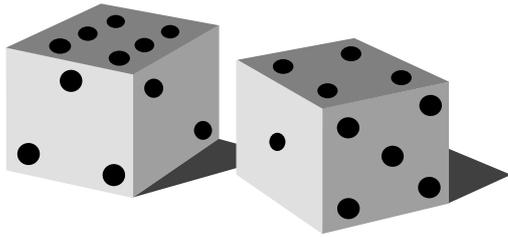


## Probability



**Throw a Die !**



**Pick a Card !**



**Toss a Coin !**

Model the tossing of a fair coin 10 times. We want to track how many of those 10 coin tosses result in heads. We also want to perform this simulation 40 times. The probability of obtaining a head in a fair coin toss is 0.5 or  $\frac{1}{2}$ . It is the same probability for tails.

**Step 1:**      **Go to the MATH key**

**Step 2:**      **Now go to PRB and scroll down to 7:randBin**

**And Press Enter ( This means random binomial )**

**Step 3:**      **Type in the following in the randBin brackets**

**`randBin(10,.5,40)`**

**This means 10 coin tosses, probability of heads and 40 simulations**

**Step 4:**      **Enter to evaluate and the following will appear:**

**{ 5 5 7 4 6 6 3 ...**

**This list contains the count of heads resulting from each set of 10 coin tosses. We can use the arrow keys to look at all of the results over the 40 simulations.**

**Exercise:**

Find the probability of each of the following coin tosses:

- (i) P(tails) over 6 tosses simulated 20 times
- (ii) P(heads) over 7 tosses simulated 60 times
- (iii) P(number 6 in a die) over 10 throws simulated 20 times
- (iv) P(Queen in pack) over 5 choices simulated 10 times
- (v) P(Ace of Hearts) over 5 choices simulated 10 times