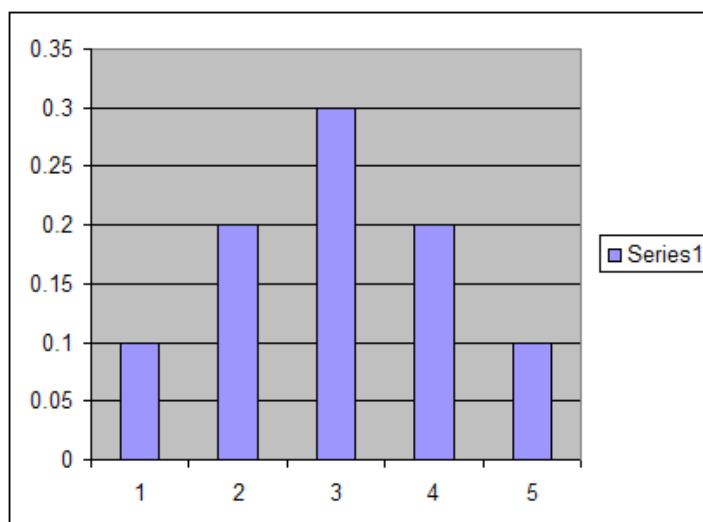


## 8.1 Distributions

Complete handout investigation

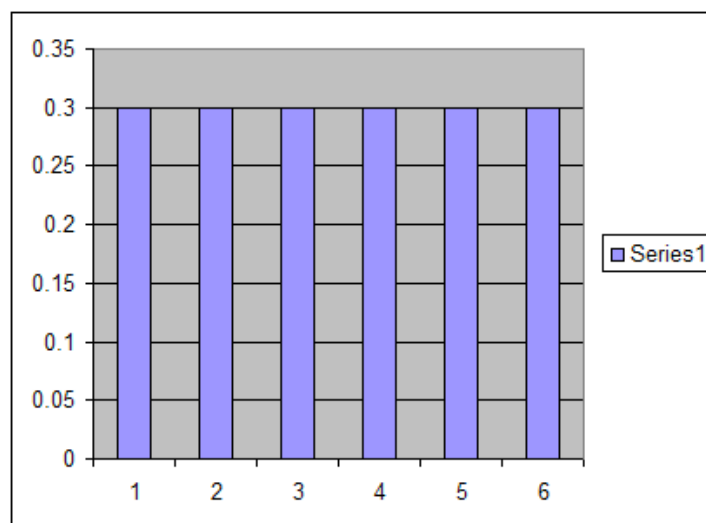
### **Binomial Distribution:**

Is a distribution in which the probabilities are symmetrical on the left and right side



### **Uniform Distribution:**

Is a distribution in which the probabilities of all outcomes are equal

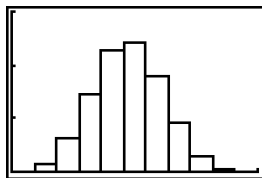


Eg 1) When a soccer player takes a shot on net they score 47% of the time. Create a binomial distribution using your graphing calculator to represent the next 10 shots on net.

1. 2nd f VARS
2. Select binompdf from the list.  $\text{or } \text{D}$   
 $\swarrow$  # of trials  $\searrow$  prob of success.  $\text{A}$

Use binompdf(10,0.47) to generate ALL probabilities otherwise called a probability distribution.

```
WINDOW
Xmin=0
Xmax=11
Xscl=1
Ymin=0
Ymax=.3
Yscl=.1
Xres=1
```



a. What is the probability of the player scoring 8 out of 10 shots?

$$0.0301$$

b. What is the probability of the player scoring at least 7 of the next 10 times?

$$7 \text{ or } 8 \text{ or } 9 \text{ or } 10 \text{ times.}$$

$$L_2(8) + L_2(9) + L_2(10) + L_2(11)$$

$$\underline{0.1271}$$

Pg. 103  
2-7