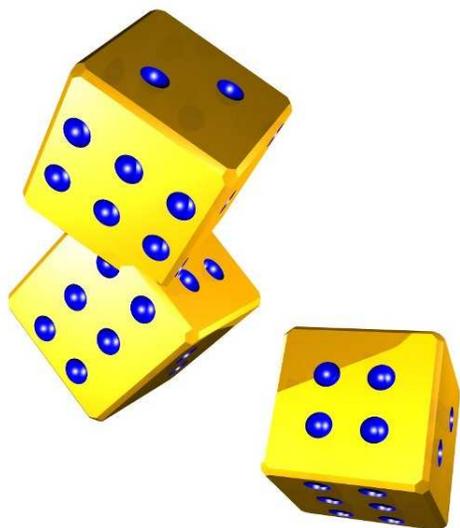
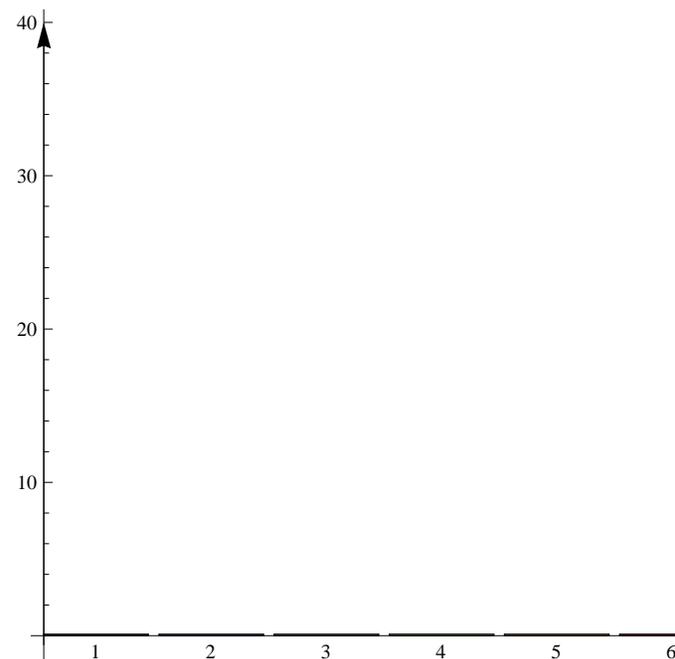


Lecture 10: Worksheet

Random variables



4 Find the standard deviation $\sigma[X] = \sqrt{\text{Var}[X]}$.



1 We throw 3 dice and define the random variable $X(\omega)$ which as the maximal value of the three dice. Draw the probability distribution. This means we want to find the probabilities $P[X = 1]$, $P[X = 2]$, $P[X = 3]$, $P[X = 4]$, $P[X = 5]$ and $P[X = 6]$.

2 Find the mean

$$m = E[X] = 1P[X = 1] + 2P[X = 2] + \dots + 6P[X = 6]$$

of the random variable X found in the previous problem.

3 Time will probably not permit this during class but find the variance of X

$$\text{Var}[X] = (1-m)^2P[X = 1] + (2-m)^2P[X = 2] + \dots + (6-m)^2P[X = 6]$$