

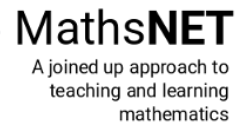


MathsNET

A joined up approach to
teaching and learning
mathematics

The binomial random variable

- Draw a tree diagram that illustrates the outcomes that could be obtained from three bernoulli trials
- Illustrate on your tree diagrams, which outcomes correspond to the $X = 0$, $X = 1$, $X = 2$ and $X = 3$ outcomes for a Binomial random variable.
- Hence, calculate the probabilities $P(X = 0)$, $P(X = 1)$, $P(X = 2)$ and $P(X = 3)$ where X is a binomial random variable
- Write out the probability mass function for a binomial random variable with parameter p and number of trials N .



- How many ways are there of arranging N distinguishable objects.
- How many ways are there of arranging N objects of type 1 and M objects of type 2.