Binomial random variable

We denote as $\mathrm{Bin}(n, p)$ the distribution for the number of successes in n independent trials.

Theorem

With n trials, the probability of k successes is

$$\mathbb{P}(\mathrm{Bin}(n, p) = k) = \binom{n}{k} p^k q^{n-k}.$$

Same proof as before...