

Math 32

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Binomial Distribution

The binomial distribution is a discrete probability distribution where we can compute the probability of observing k successes, each with probability p , among n trials with the probability mass function

$$P(X = k) = \binom{n}{k} p^k (1 - p)^{n-k}$$

Parameters

In this [LearnR](#) app, we will practice making graphs of the PMF (probability mass function) and cumulative probabilities for a binomial distribution.

Setting

In constructing a music playlist in YouTube, suppose that 63 percent of the songs had official music videos (and fan-made videos otherwise). Let us create a playlist of 10 songs. Fill in the parameters for $X \sim \text{Bin}(n, p)$ below.

[Code](#) [Start Over](#)[Run Code](#)

```
1 n <- 10
2 p <- 0.63
3
```

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