

Chapter 5

Wednesday, November 07, 2007
10:02 AM

Binomial

of successes

$$\text{binompdf}(n, p, r) \\ \downarrow \\ P(r)$$

$$nC_r p^r q^{n-r}$$

$$\mu = np \\ \sigma = \sqrt{npq}$$

more # of successes
less # of successes

More: $P(r) + P(r+1) + P(r+2) \dots P(n)$

Less: $P(r) + P(r-1) + P(r-2) \dots P(0)$

$$\text{Binomialcdf}(n, p, r)$$

$$0 \rightarrow \underline{r}$$

Geometric

1st success

$$\text{Geometpdf}(p, r) \\ \downarrow \\ P(x=r)$$

$$pq^{r-1} \\ p(1-p)^{r-1} \\ P(x=r)$$

$$\mu = 1/p \\ \sigma = \sqrt{q}/p$$

$$1 - \text{binomcdf}(n, p, r-1)$$

$$\underline{r} \rightarrow$$

$$\text{Poisson: } P(r) = \frac{e^{-\lambda} \lambda^r}{r!}$$

$$\text{Poissonpdf}(\lambda, r)$$