

$$\binom{n}{k} = \frac{(n)_k}{k!}$$

## Ch 4 Random Variables:

$$(\Omega, \mathcal{F}, P)$$

A Random variable is a quantity that depends (nicely) on the outcome of an experiment.

AKA it's a "nice" function on  $\Omega$ .

$$E(X) = \text{Avg value}$$

$$\text{Var}(X) = E\left\{(X - E(X))^2\right\}$$

$$\sigma_X = \sqrt{\text{Var}(X)}$$