

Random Variable: *outcomes \Rightarrow numbers*

Why: ? to use Mathematical on probability

passion process: $E(x) = \lambda^{\text{cars/hour}} = n \cdot p$

the events are independent of each other.

*number
of
tries*

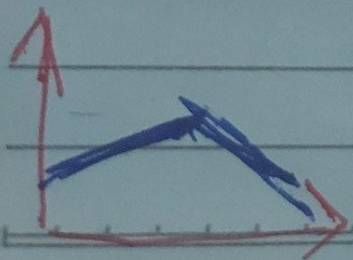
*probability
of success*

Binomial distribution: (mean) Calculated by

multiplying the number of trials (*n*) by the

probability of successes (*p*). (What diff?)

law of large numbers: avg of the results obtained from large number.



discrete R.V is for Counting

Continuous R.V is for measuring

$$\text{prob}(\text{Score}) = 70\% \quad | \quad \text{prob}(\text{miss}) = 30\%$$

$$P(\text{Exactly } 2 \text{ score in } 6 \text{ attempts}) = \binom{6}{2} 0.7^2$$

↓
k
score

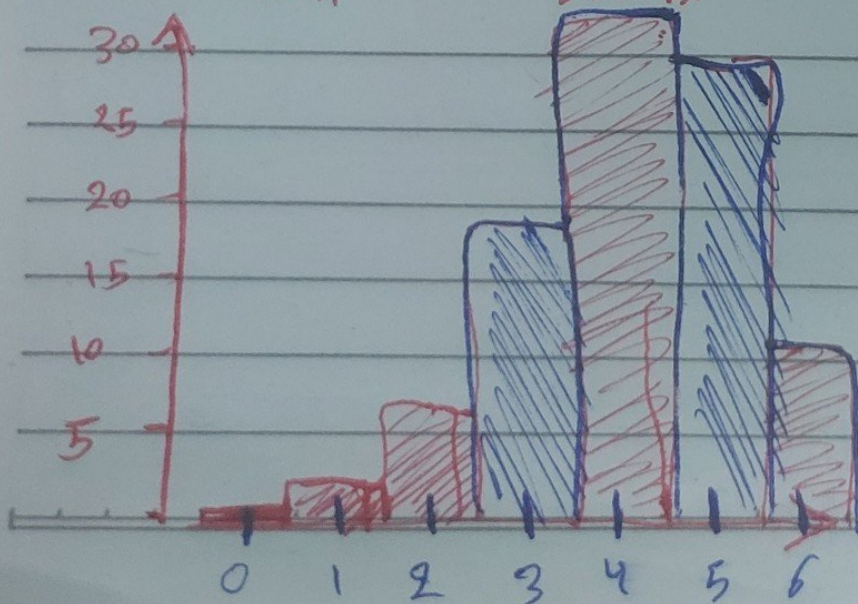
↓
n
miss

$$\binom{n}{k} f^k (1-f)^n$$

$$P(x=0) = \binom{6}{0} 0.7^0 \cdot 0.3^6 = 0.17$$

1 1.0% 3 18.5% 5 30.37%

2 6.0% 4 32.4% 6 11.8%



Can't Do it :)