10/30/2023

- HW is due on M, • Test on M
  all FRQ
- 25 AP classroom
- Quizzes in AP Bairons 3
- few extra practice questions

Binomial Dist

- 2 outcomes successes ✓ failure

p = prob(succ) q = prob(fail)

$$p + q = 1$$

- n trials, each trial are
  - same setup
  - ~~independent~~

- Question setup

"what is prob of getting k succ in n trials"

Ans: $\text{Prob}(\overset{k\text{-succ in}}{n \text{ trials}}) = \binom{n}{k} p^k q^{n-k}$

p = prob(succ)

q = prob(fail)

Geometric Distributions

- 2 outcomes successes ✓ failure

p = prob(succ) q = prob(fail)

$p + q = 1$

- each trial are
  - same setup
  - independent

- Questions "what is prob of getting first success on k^{th} trial"

$$q^{k-1} p$$

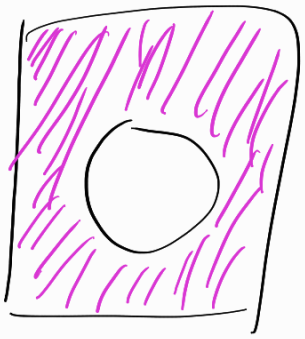
Q: What is prob. of flipping T on 100th flip?

$(1/2)(1/2)\cdots(1/2)$ $(1/2)$

99 all of the failures | your success

Example: Cornhole 25% of scoring

Prob of scoring on your 4th try?



$(0.75)^3(0.25)$

p = prob(success)

q = prob(fail)

	Binomial	Geometric
Formula	$\binom{n}{k} p^k q^{n-k}$	$q^{k-1} p$
μ	np	$\frac{1}{p}$
Standard dev	$\sqrt{npq}$	$\frac{\sqrt{q}}{p}$

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