

PSTAT 5A: Quiz 03*Spring 2023: with Ethan P. Marzban***! Important Instructions**

- The quiz questions appear on Canvas.
- You must turn in this sheet, with your name and NetID filled out, to your TA after completing the quiz on Canvas, even if you do not write anything else on it.
 - Failure to return this sheet to your TA will result in a score of zero on the quiz.

i Potentially Useful Formulae

As a reminder: it is up to you to figure out which formula to use in a given context!

$X \sim \text{Bin}(n, p) \implies \mathbb{P}(X = k) = \binom{n}{k} \cdot p^k \cdot (1 - p)^{n-k}; \quad \mathbb{E}[X] = np; \quad \text{Var}(X) = np(1 - p)$	
$\mathbb{E}[X] = \sum_{\text{all } k} k \cdot \mathbb{P}(X = k)$	$\binom{n}{k} = \frac{n!}{k! \cdot (n - k)!}$
$\text{Var}(X) = \sum_{\text{all } k} (k - \mathbb{E}[X])^2 \cdot \mathbb{P}(X = k) = \left(\sum_{\text{all } k} k^2 \cdot \mathbb{P}(X = k) \right) - (\mathbb{E}[X])^2$	

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You may use the remainder of this page for Scratch Work

Name: _____

UCSB NetID: _____

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