

Table 1: Comps Practice

Year	Question	Related field	Time spend	Turn out
2021-T	1a-c	1. pdf, cdf	short	good
	1 d-f	2. E, Var	long	don't know how to come up with the thing
		1. [Asymptotic Probability]		
	2	1. Conditional Probability	3h	Can't do Binormal pdf, Expectation and variance Can't do conditional expectation
		2. [Multivariate Transformation]		
		3. [Binormal Distribution]		
	3a	Transformation	short	good
	3b		Long	didn't finish
	3c-d	1. Order Statistics	Long	Didn't finish
		2. [Hypothesis Testing]		
	4a-d	• CLT	Long	Can't do it Very easy if you think of second order Delta
	4e	• Delta		
		• Converge		
		• Taylor Series		
	5a-c	• Second Order Delta		
		• MOM		
	5d-f	• UMVUE	Long	Fisher info can only applied to exponential family CRLB only apply for family distribution that support doesn't depend on paramter
		• Rao-blackwell		
		• Bayesian		

Year	Question	Related field	Time spend	Turn out
2021- A 2022- A	6	<ul style="list-style-type: none"> Gal-Markov lagrange multiplier Order Statsitics 		Don't know how to get the order statistics distribution
	1c	[T-test]	Long	Didn't Finish, still don't understand equal variance vs. unequal variance
	1g	[T-test]	Long	Also don't understand the assumption to get a exact t-test, approx. t-test.
	2	1. Log-transform 2. Logistic	medium	Not familiar with log transform value interpetation Not familiar with the idea of Risk and Odd
	3a	Saturated	Long	Not familiar with Logisitcs Don't understand how a model can be saturated Don't understand how constrains works on the saturated
	3b	1. logistic 2. Multiordinal 3. Log-odd	Long	Not familiar with the forms of the model Don't know the proportional odd assumption Don't know how to hand calculated logistic model Don't know how to hand calcualted Log-odd Model
	4	Baysian	Okayish	I don't know
	5	1. Simulation 2. Bootstrap CI	Okayish	Not sure how to evaluate CI performance Not sure how bootstrap CI
	6	<ul style="list-style-type: none"> Non-linear model 	Long	Not familiar with multivariate delta Methods
	1b	<ul style="list-style-type: none"> Delta method Geometric 		Don't know the MGF of Geometric Don't know the trick to find MGF
2022- T	1j 2c	<ul style="list-style-type: none"> MGF AUC		Don't understand the upper bound of AUC

Year	Question	Related field	Time spend	Turn out
	2d	Transformation		Transformation with Jacobian apply to pdf
	2g	• Slutsky		Non-independent b/c of Indicator function good, but worth reviewing
	2h	• LLN • CLT		Confused at which variance should use in delta method
	3c	• Delta Method • UMVE		Completely forget about Lehmann-scheffe
	3d	• Complete		Don't know how to prove
	3e			Completely no idea
	4a-b	• MGF		Bad, not thinking of MGF and got stuck
	4c	Method of Moment		Still don't know how to get a MOM estimator
	4d	Asymptotic Distribution		How to determine asymptotic distribution? converge in distribution?
	5			
	6a	MLE	fast	Like bob's
	6b-c	bayesian		
	6d-f	Unbiased	Bad	F