

MTH 372: Quiz II

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Instructions

- Show all your work to score full marks.
- Show results in their simplest forms.

Let X_1, \dots, X_n be a random variable from $N(\mu, \sigma^2)$ where both μ and σ are unknown. Solve the following.

1. (2 points) Find a level α LRT for $H_0 : \mu = \mu_0$ versus $H_1 : \mu > \mu_0$.
2. (2 points) Find a level α LRT for $H_0 : \mu = \mu_0$ versus $H_1 : \mu \neq \mu_0$.
3. (1 point) Compare results obtained from part (a) and (b). What do you infer.