

MTH 372 (2025): Tutorial V

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1. Let X_1, X_2, \dots, X_n be i.i.d. from $Gamma(\alpha, \beta)$. What will be the distribution of sample mean, \bar{X} .
2. Let X be a random variable from χ^2 distribution with p degrees of freedom. What will be the distribution of cX , $c > 0$. Also find the mean and variance of cX .
3. Let X be a random variable from $U(0, 1)$. Derive distribution of $-2 \log X$ and its mean and variance.