

Math 3733 Practical – B

- Part 1
- (1) What is called a random variable (r.v.)?
 - (2) Two r.v.'s are independent, – what does it mean?
 - (3) Three r.v.'s are independent, – what does it mean?
 - (4) What is called (cumulative) distribution function of a random variable (r.v.) X ?
 - (5) What is called density of a r.v. X ?
 - (6) What is called characteristic function of a r.v. X ?
 - (7) What is called a **normal** or **Gaussian** random variable, *standard* and *general*? (A correct answer means that you write the density, or the characteristic function, or define it via some other standard r.v. for which you can define the density or the characteristic function.)
 - (8) What is called χ_k^2 distribution? (A correct answer means that either you write its density or characteristic function (not recommended, although acceptable), or define it via some other well-defined objects (preferred).)
- Part 2
- (1) Give the definition of weak convergence.
 - (2) State and prove the Central Limit Theorem – 2.