Statistics-CS	**Different Distributions**
Tutorial 4	

1. A student takes a ten-question true/false exam.
    a. Find the probability that the student gets exactly six of the questions right simply by guessing the answer on every question.
2. Scores on a standardized college entrance examination (*CEE*) are normally distributed with mean 510 and standard deviation 60. A selective university considers for admission only applicants with *CEE* scores over 650. Find percentage of all individuals who took the *CEE* who meet the university's *CEE* requirement for consideration for admission.
3. Find $z_{0.01}$ and $-z_{0.01}$, the values of Z that cut off right and left tails of area 0.01 in the standard normal distribution.
4. Find $x*$ such that $P(X<x*)$=0.9332, where X is a normal random variable with mean μ=10 and standard deviation σ=2.5.
5. All boys at a military school must run a fixed course as fast as they can as part of a physical examination. Finishing times are normally distributed with mean 29 minutes and standard deviation 2 minutes. The middle 75% of all finishing times are classified as "average." Find the range of times that are average finishing times by this definition.
6. The probability of a serious failure in nuclear power plant is 0.1%. What is the probability that in a country that has 20 power plants one would occur?
7. Let X be a standard normal random variable. Calculate: $P(-1 < X < 1)$, $P(-2 < X < 2)$, $P(-3 < X < 3)$, $P(2 < X < 3)$, $P(-2 < X < 1)$.
8. Let X be a normal random variable with mean $\mu = 10$ and standard deviation $\sigma = 2.5$. Compute the following probabilities: $P(X < 14)$, $P(8 < X < 14)$, $P(-8 < X < 0)$, $P(0 < X < 8)$.