Columbia University
Quiz 3 – Summer 2015
Intro to Stat
Instructor: Wei Wang

Student's name: ____________________ UNI: ______________

Q.1) If two **independent** random variables $X \sim \mathrm{N}(0, 1)$, $Y \sim \mathrm{N}(1, 1)$, what are the distributions of random variables $X + Y$ and $X - Y$?

Q.2) If two random variables X and Y have covariance $\mathrm{Cov}(X, Y) = 2.5$ and correlation coefficient $\rho(X, Y) = .7$, what is $\mathrm{Cov}(2X, Y)$ and $\rho(2X, Y)$?