

## Math 525 - Probability

### Quiz 4

1. For a random variable  $X$ , give examples of random variables  $Y$  and  $Z$  where  $\rho(X, Y) = 1$  and  $\rho(X, Z) = -1$ .
2. For independent random variables  $X, Y$ , prove that  $\text{cov}(X, Y) = 0$ .
3. Are uncorrelated random variables independent?