True/False - No explanation needed. (1pt for correct, 0pt - no answer, -1pt - incorrect)

1. A random variable has the expected value 0, maximum value 10 and minimum value -10. Its variance is 20. Is it possible? Yes/No

2. When we translate the random variable X by 2 units, i.e. X becomes $X + 2$, the expected value is translated by 2 and the variance is translated by 4, i.e. $E[X]$ becomes $E[X] + 2$ and $Var(X)$ becomes $Var(X) + 4$, respectively. True/False

Problems - Need justification. No justification means **zero**!

1. (10pts) Let X_1 and X_2 denote the numbers that come up on two rolls of a fair four-sided die. Let $X = X_2$, $Y = X_1 + X_2$
   a) Find the expectation and variance of Y.
   b) Find $Cov(X, Y)$.