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

1. The sample mean (or sample average) is not a RV and its value is roughly $\bar{\mu} = \mu$, where μ is the population mean. True/False

2. If the sample size is very large, the variance of the sample mean will approach the population variance. True/False

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

1. (10pts) John rolls a fair 6-side dice 100 times. He takes the average.
   (a) Find the 87% CI of the average.
   Hint: use $\bar{\sigma}^2 = \dfrac{\sigma^2}{n-1}$
   (b) Find the probability that this average is less than 4.