Midterm Debriefing

A random variable is not its expectation. Wrong to say \( Y = 5X \) on HW5, #2.

\[
E[LY] = 5E[X]
\]

\( Y \) is the sum of 5 independent deals
\( X \) is one random deal

A random variable is characterized by its PMF or PDF.

Ex: 1. Roll of a fair 6-sided die.
2. # heads when you flip a fair coin 7 times independently.

Expectation is 3.5 for both examples.

\[
P(\mu - \sigma < Z < \mu + \sigma) = P(-1 < \frac{Z - \mu}{\sigma} < +1)
= \Phi(1) - \Phi(-1)
\]