- State the conditional expectation theorem
- In the video we calculated the expectation and variance of a particular random variable using the conditional expectation theorem, which random variable?
- Explain why $\mathbb{E}(X+1)=\mathbb{E}(X)+1$.
- Explain why $\mathbb{E}\left[(X+1)^{2}\right] \neq \mathbb{E}\left(X^{2}\right)+1$ and what the left hand side of this equation is really equal to
- Explain why $\mathbb{E}[\ln (X Y)]=\mathbb{E}[\ln (X)]+\mathbb{E}[\ln (Y)]$

