

## Pre-class preparation

Please watch the following video, as indicated:

- Video: <https://expl.ai/MPZRXQF>

## Objectives

By the end of the day's class, students should be able to do the following:

- Review important concepts from MATH/STAT 310.
- Re-familiarize yourself with common, “named” distributions.
- Understand the difference between conditional expectation given an event versus given a random variable.

## Reflection Questions

Please submit your answers to the following questions to the corresponding Canvas assignment by 9:00AM:

1. Suppose that  $A$  and  $B$  are events such that  $\Pr(A) = 1/3$ ,  $\Pr(B) = 1/5$ , and  $\Pr(A|B) + \Pr(B|A) = 2/3$ . Evaluate  $\Pr(A^c \cup B^c)$ .
2. Let  $X \sim \text{Unif}(0, 1)$ . Define a new random variable  $Y = e^{-X}$ . Find  $\mathbb{E}[Y]$ .
3. (Optional) Is there anything from the pre-class preparation that you have questions about? What topics would you like would you like some more clarification on?