

## Probability

### Examples

1. What are the following terms:
  - Outcome space
  - Outcomes
  - Events
  - Random Variables
  - Discrete vs Continuous Random Variables
  - PDF/CDF
  - PMF/CDF
  - Binomial coefficient
  - Pascal's triangle
  - Binomial distribution
  - Expected value
  - Payout of a game
  - $E[X]$ ,  $E[X^2]$ , etc.
  - Independent events
2. Let  $A, B$  be events in a probability space  $\Omega$ . Suppose  $P(A) = 0.15$ ,  $P(B) = 0.25$ ,  $A \cap B = \emptyset$ . Compute:  $P(\Omega \setminus B)$ ,  $P(B \setminus A)$ ,  $P(A \cup B)$ ,  $P(\Omega)$ .

### Problems

3. True    False    The value of a PMF at a point represents the probability of picking that number.
4. True    False    Associated to any random variable  $X$  is a PDF.
5. Question 6, HW 23