Random Variable

Note Title 1/10/2024

Random variable (X) is a numerical variable whose value is determined by the outcome of a random experiment

- a function whose domain is the sample space, and whose real line.
- "$X = 1$" ; "$X < 4$" ; "$5 < X \leq 10$" $\Rightarrow$ known as events
- small letters ($x, a, b, \ldots$) denoted as particular values that a random variable may assume

  eg. $Pr[X = x]$ means the probability that the random variable X takes on some particular value x

$(a+3) \times (a+5) = a \times a + (3a + 5a) + 3 \times 5$

1) True

$a^2 + 8a + 15 = a^2 + 8a + 15$

2) $(a + (-3)) \times (a+5) = a \times a + ((-3)a + 5a)$

$(a+3) \times (a + (-5)) = a \times a + (3a + (-5a))$

3) $(a + (-3)) \times (a + (-5)) = a \times a + ((-3)a + (-5)a) + (-5) \times (-3)$