Math 5411 – Mathematical Statistics I– Fall 2024

w/Nezamoddini-Kachouie

Paul Carmody

Quiz #1 – September 4, 2024

We roll two six-sided dice and record the sum of face values of them.

a) List the sample space.

$\Omega = \{2, 3, 4, 5, 6, 7, 8, 9, 12\}$

b) List the elements in event A: the recorded value is odd.

$A = \{3, 5, 7, 9, 11\}$

c) Calculate the probability of event A.

$P(A) = |A|/|\Omega| = 5/9$

d) Are the outcomes of this experiment equally likely?

No. For example, there is only one way to get a 2, but thee are several ways to get a 7 (2+4, 3+4, 6+1). Thus $P(7) > P(2)$

e) If you answered Yes to part d, find the probability of each outcome.
If you answered No to part d, find the outcome(s) with the highest probability.

$P(7) = 6/12 = 1/2$