Assignment 4

Kummitha Jhanavi

May 17, 2022

Outline

Problem

Example 1.2 chapter 1

We roll two dice and we want to find the probability p that the sum of the numbers that show equals 7

Definition

Sample space Definition

Sample space of an experiment or random trial is the set of all possible outcomes or results of that experiment

Example: when two dice are rolled possible outcomes are
(1,1),(1,2),(1,3),(1,4),(1,5),(1,6), (2,1)(2,2),(2,3),(2,4),(2,5),(2,6),
(3,1),(3,2),(3,3),(3,4),(3,5),(3,6), (4,1),(4,2),(4,3),(4,4),(4,5),(4,6),
(5,1),(5,2),(5,3),(5,4),(5,5),(5,6), (6,1),(6,2),(6,3),(6,4),(6,5),(6,6)
Therefore total possible outcomes when two dice are rolled is 36

Solution

Solution

From the sample space mentioned above the ordered pairs whose sum digits is 7 are (1,6),(2,5),(3,4),(4,3),(5,2),(6,1) Number of possible outcomes are 6.

Total number of outcomes when two dice are rolled is 36.
n(p) = 6 where p is order pairs whose sum is 7

Let Pr(p) be probability of getting of sum digits as 7

$$\Pr(p) = \frac{n(p)}{Totaloutcomes}$$
$$\implies \Pr(p) = \frac{6}{36} = \frac{1}{6}$$