EE23010 Assignment

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Question 10.13.3.19
Two dice are thrown at the same time. Find the probability of getting

 (i) same number on both dice.
 (ii) different numbers on both dice.

Solution: Let

$$X = \begin{cases} 1, & \text{if same number on both dice} \\ 0, & \text{if different numbers on both dice} \end{cases} \tag{1}$$

 (i) For getting the same number on both dice there are 6 favorable outcomes.

$$p_X(1) = \frac{6}{36} \tag{2}$$
$$= \frac{1}{6} \tag{3}$$

 (ii) For getting the different numbers on both dice there are 30 favorable outcomes.

$$p_X(0) = \frac{30}{36} \tag{4}$$
$$= \frac{5}{6} \tag{5}$$