

# Assignment 1

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**Problem 10.15.1.8:-**

A bag contains 3 red balls and 5 black balls. A ball is drawn at random from the bag. What is the probability that the ball drawn is (i) red ? (ii) not red?

**Solution:-**

Number of red balls in the bag = 3

Number of black balls in the bag = 5

Total number of balls in the bag =  $3 + 5 = 8$

Let  $R$  be the event that the drawn ball is red, and  $R'$  be the event that the drawn ball is not red.

(i) Probability that the drawn ball is red

$$= P(R) = \frac{\text{Number of red balls}}{\text{Total number of balls}} = \boxed{\frac{3}{8}} \quad (1)$$

(ii) Probability that the drawn ball is not red

$$= P(R') \quad (2)$$

$$= 1 - P(R) = 1 - \frac{3}{8} = \boxed{\frac{5}{8}} \quad (3)$$