# Worksheet: Probability

Uttar Pradesh State Board · Class 12 · Mathematics · 8 questions · 27 marks

Name: _____ Date: _____ Score: _____ / 27

**Q1.** If P(A) = 0.5, P(B) = 0.4 and P(A and B) = 0.2, find P(A|B) and P(B|A). *[2 marks]*

**Q2.** If A and B are independent with P(A) = 0.4 and P(B) = 0.5, find P(A or B). *[2 marks]*

**Q3.** Two cards are drawn without replacement from a well shuffled deck of 52. Find the probability that both are kings. *[3 marks]*

**Q4.** A problem is given to three students whose chances of solving it are 1/2, 1/3 and 1/4. Find the probability that the problem is solved. *[3 marks]*

**Q5.** Bag A has 3 red and 5 black balls; bag B has 4 red and 4 black. A bag is chosen at random and a ball drawn. Find the probability that it is red. *[4 marks]*

**Q6.** Two machines produce 40% and 60% of output, with defect rates 3% and 2%. An item is found defective. Find the probability it came from the first machine. *[4 marks]*

**Q7.** A doctor knows a patient has one of three diseases with probabilities 0.5, 0.3 and 0.2. A test is positive with probabilities 0.8, 0.6 and 0.4 respectively. Given a positive test, find the probability of the first disease. *[5 marks]*

**Q8.** A family has three children. Given that at least one is a boy, find the probability that all three are boys. *[4 marks]*