

PROBABILITY

1. A bag contains 5 red balls and 3 blue balls. Two balls are drawn at random without replacement. Find the probability that the balls drawn are of the same color.

2. A die is thrown twice. Find the probability that the sum of the numbers appearing on the two throws is 7.

3. A card is drawn from a well-shuffled deck of 52 cards. Find the probability that the card is a king or a queen.

4. A box contains 100 bulbs, of which 10 are defective. Two bulbs are drawn at random without replacement. Find the probability that both bulbs are non-defective.

5. A number is chosen at random from the numbers 1 to 100. Find the probability that the number is a multiple of 5 or 10.

Event	Number of Outcomes	Probability
Both bulbs are non-defective	90×89	$\frac{90 \times 89}{100 \times 99}$
One bulb is defective and one is non-defective	$10 \times 90 + 90 \times 10$	$\frac{10 \times 90 + 90 \times 10}{100 \times 99}$
Both bulbs are defective	10×9	$\frac{10 \times 9}{100 \times 99}$

6. A number is chosen at random from the numbers 1 to 100. Find the probability that the number is a multiple of 5 or 10.



PROBABILITY



Event	Number of Outcomes	Probability
Both balls are of the same color	$5 \times 4 + 3 \times 2$	$\frac{5 \times 4 + 3 \times 2}{8 \times 7}$
One ball is red and one is blue	$5 \times 3 + 3 \times 5$	$\frac{5 \times 3 + 3 \times 5}{8 \times 7}$

7. A number is chosen at random from the numbers 1 to 100. Find the probability that the number is a multiple of 5 or 10.