1. Toss a single coin 10 times and record H (head) or T (tail) after each toss. Using your results, find the relative frequency of
   (i) Heads   (ii) Tails.

2. A coin is tossed 1000 with the following frequencies:
   Head : 460, Tail: 540
   Compute the probability for each event.

3. A coin is tossed 500 times with the following frequencies:
   Head : 255, Tail: 245
   Compute the probability for each event.

4. Two coins are tossed simultaneously 500 times, and we get two heads : 110 times; one head: 270 times; no head: 120 times. Find the probability of occurrence of each of these events.

5. In a cricket match, a batsman hit a boundary 8 times out of 32 balls he plays. Find the probability that he does not hit a boundary.

6. The record of a weather station shows that out of the past 200 consecutive days, its weather forecasts were correct 160 times.
   (i) What is the probability that on a given day it was correct?
   (ii) What is the probability that it was not correct on a given day?

7. The percentage of marks obtained by a student in the monthly unit tests are given below :

Unit test	I	II	III	IV	V
Percentage of marks obtained	68	76	72	66	82

   Based on this data, find the probability that the student gets more than 70% marks in a unit test.

8. A die is thrown 1000 times with the frequencies for the outcomes 1, 2, 3, 4, 5 and 6 as given in the following table:

Outcome	1	2	3	4	5	6
Frequency	178	152	156	150	176	188

   Find the probability of getting each outcome.

9. 12 bags of cement, each marked 10 kg, actually contained the following weights (in kg) of cement:
   9.5, 10.3, 10.2, 10.1, 10, 10.7, 9.8, 10.4, 9.7, 10.5, 9.7, 9.6
   Find the probability that any of these bags chosen at random contains more than 10 kg of cement.

10. Fifty seeds were selected at random from each of 5 bags of seeds, and were kept under standardised conditions favourable to germination. After 20 days, the number of seeds which had germinated in each collection were counted and recorded as follows:

Bag	1	2	3	4	5
Number of seeds germinated	40	48	42	39	41

What is the probability of germination of (i) more than 41 seeds in a bag? (ii) 47 seeds in a bag? (iii) more than 38 seeds in a bag?

11. Two coins are tossed simultaneously 450 times. If we get two heads 80 times, one head 220 times and no head 150 times, then find the probability of getting one or more than one head. Give reasons to your answer also.

12. 1200 families with 2 children each, were selected randomly, and the following data were recorded:

Number of girls in a family	2	1	0
Number of families	450	550	200

Compute the probability of a family, chosen at random, having
   (i) 2 girls   (ii) 1 girl   (iii) no girl.
Also, check whether the sum of these probabilities is 1.

Answers

1. If your results are 4 heads and 6 tails, then (i) 0.4, (ii) 0.6

2. 0.46, 0.54   3. 0.51, 0.49   4. $\dfrac{11}{50}, \dfrac{27}{50}, \dfrac{6}{25}$

5. $\dfrac{3}{4}$ 6. (i) $\dfrac{4}{5}$, (ii) $\dfrac{1}{5}$ 7. 0.6

8. (i) 0.178, (ii) 0.152, (iii) 0.156, (iv) 0.150, (v) 0.176, (vi) 0.188

9. $\dfrac{1}{2}$ 10. (i) $\dfrac{2}{5}$ (ii) 0 (iii) 1

11. $\dfrac{2}{3}$; Frequency of one or more than one head = 80 + 220 = 300

   P(one or more than one head) = $\dfrac{300}{450} = \dfrac{2}{3}$

12. (i) $\dfrac{3}{8}$ (ii) $\dfrac{11}{24}$ (iii) $\dfrac{1}{6}$