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1. In a cricket match, a batswoman hits a boundary 6 times out of 30 balls she plays. Find the probability that she did not hit a boundary.

Solution:

According to the question,

Total number of balls = 30

Numbers of boundary = 6

Number of time batswoman didn't hit boundary = 30 – 6 = 24

Probability she did not hit a boundary = 24/30 = 4/5

2. 1500 families with 2 children were selected randomly, and the following data were recorded:

Number of girls in a family	2	1	0
Number of families	475	814	211

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.

Solution:

Total numbers of families = 1500

(i) Numbers of families having 2 girls = 475

Probability = Numbers of families having 2 girls/Total numbers of families

= 475/1500 = 19/60

(ii) Numbers of families having 1 girls = 814

Probability = Numbers of families having 1 girls/Total numbers of families

= 814/1500 = 407/750

(iii) Numbers of families having 2 girls = 211
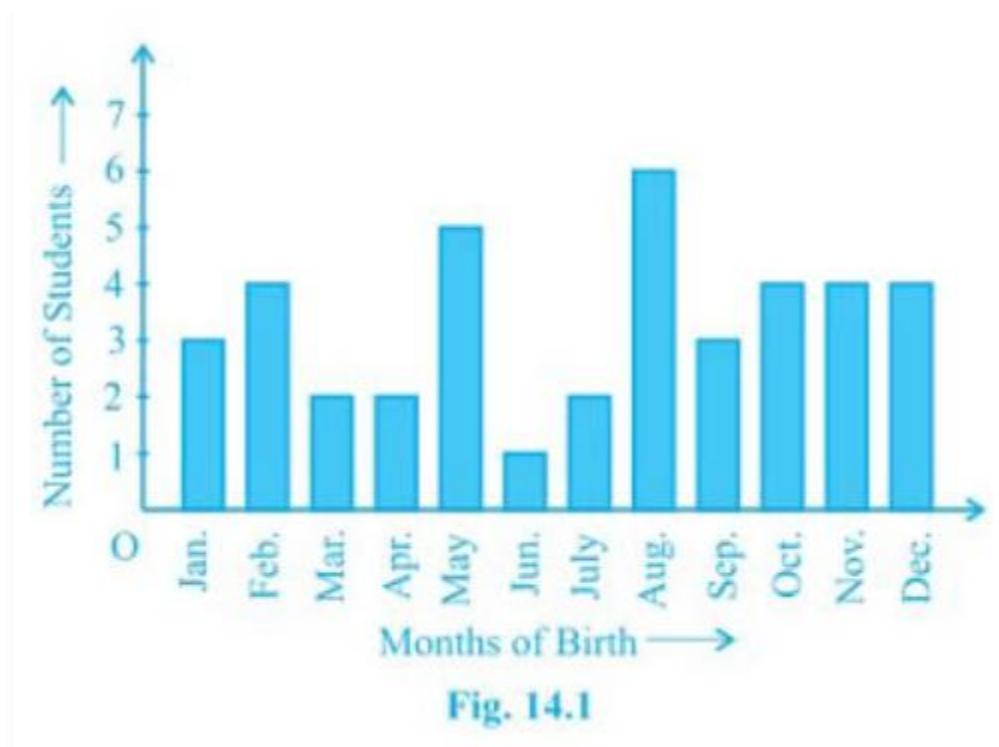
Probability = Numbers of families having 0 girls/Total numbers of families

= 211/1500

Sum of the probability = (19/60)+(407/750)+(211/1500)

= (475+814+211)/1500

= 1500/1500 = 1

Yes, the sum of these probabilities is 1.

3. Refer to Example 5, Section 14.4, Chapter 14. Find the probability that a student of the class was born in August.

Solution:

Fig. 14.1

Total numbers of students in the class = 40

Numbers of students born in August = 6

The probability that a student of the class was born in August, = 6/40 = 3/20

4. Three coins are tossed simultaneously 200 times with the following frequencies of different outcomes:

Outcome	3 heads	2 heads	1 head	No head
Frequency	23	72	77	28

If the three coins are simultaneously tossed again, compute the probability of 2 heads coming up.