

PROBABILITY

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16.3.18 ¹ In class XI of a school 40% of the students study Mathematics and 30% study Biology. 10% of the class study both Mathematics and Biology. If a student is selected at random from the class, find the probability that he will be studying Mathematics or Biology

Solution:

Random Variable	Subject	Probability
M	Mathematics	$\Pr(M)=0.4$
B	Biology	$\Pr(B)=0.3$
M,B	Both	$\Pr(MB)=0.10$

Table 2: Random Variables M,B and M,B

$$\Pr(M + B) = \Pr(M) + \Pr(B) - \Pr(M, B) \quad (16.3.18.1)$$

$$= 0.4 + 0.3 - 0.10 \quad (16.3.18.2)$$

$$= 0.6 \quad (16.3.18.3)$$

¹Read question numbers as (CHAPTER NUMBER).(EXERCISE NUMBER).(QUESTION NUMBER)