

Assignment

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Question 11.16.3.19

Three numbers are chosen from 1 to 20. Find the probability that they are not consecutive

1) $\frac{186}{190}$

2) $\frac{187}{190}$

3) $\frac{188}{190}$

4) $\frac{18}{{}^{20}C_3}$

Solution: The number of set of three consecutive numbers from 1 to 20 is 18 ie,

Random variable	values	Events
X	0	The numbers are consecutive
	1	The numbers are not consecutive

TABLE 1: Random variable

$$\Pr(X = 0) = \frac{18}{{}^{20}C_3} \quad (1)$$

Then

$$\Pr(X = 1) = 1 - \Pr(X = 0) \quad (2)$$

$$= 1 - \frac{18}{{}^{20}C_3} \quad (3)$$

$$= \frac{187}{190} \quad (4)$$