

Centum Preparation 100 Days plan class 12 Maths

Q.N o.	DAY - 74										
461	4. Two balls are chosen randomly from an urn containing 6 red and 8 black balls. Suppose that we win ₹ 15 for each red ball selected and we lose ₹ 10 for each black ball selected. X denotes the winning amount, then find the values of X and number of points in its inverse images.										
462	5. A six sided die is marked '2' on one face, '3' on two of its faces, and '4' on remaining three faces. The die is thrown twice. If X denotes the total score in two throws, find the values of the random variable and number of points in its inverse images.										
463	Example 11.6 A pair of fair dice is rolled once. Find the probability mass function to get the number of fours.										
464	Example 11.7 If the probability mass function $f(x)$ of a random variable X is <table border="1"><tr><td>x</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>$f(x)$</td><td>$\frac{1}{12}$</td><td>$\frac{5}{12}$</td><td>$\frac{5}{12}$</td><td>$\frac{1}{12}$</td></tr></table> find (i) its cumulative distribution function, hence find (ii) $P(X \leq 3)$ and, (iii) $P(X \geq 2)$	x	1	2	3	4	$f(x)$	$\frac{1}{12}$	$\frac{5}{12}$	$\frac{5}{12}$	$\frac{1}{12}$
x	1	2	3	4							
$f(x)$	$\frac{1}{12}$	$\frac{5}{12}$	$\frac{5}{12}$	$\frac{1}{12}$							
465	Example 11.8 A six sided die is marked '1' on one face, '2' on two of its faces, and '3' on remaining three faces. The die is rolled twice. If X denotes the total score in two throws. (i) Find the probability mass function. (ii) Find the cumulative distribution function. (iii) Find $P(3 \leq X < 6)$ (iv) Find $P(X \geq 4)$.										

466

Example 11.9

Find the probability mass function $f(x)$ of the discrete random variable X whose cumulative distribution function $F(x)$ is given by

$$F(x) = \begin{cases} 0 & -\infty < x < -2 \\ 0.25 & -2 \leq x < -1 \\ 0.60 & -1 \leq x < 0 \\ 0.90 & 0 \leq x < 1 \\ 1 & 1 \leq x < \infty \end{cases}$$

Also find (i) $P(X < 0)$ and (ii) $P(X \geq -1)$.