CLASS 12 PRE-BOARDS SPECIAL

Chapter 13. PROBABILITY

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Ques No.	Question
1 - 10388	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** If the mean and variance of a binomial distribution are respectively 9 and 6, find the distribution. Click to watch Free Video Solution of this question on Doubtnut
2 - 10389	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** There are two bags I and II. Bag I contains 3 white and 3 red balls and Bag II contains 4 white and 5 red balls. One ball is drawn at random from one of the bags and is found to be red. Find the probability that it was drawn from bag II. Click to watch Free Video Solution of this question on Doubtnut
3 - 10393	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A card is drawn at random from a well-shuffled pack of 52 cards. Find the probability that it is neither a king nor a heart. Click to watch Free Video Solution of this question on Doubtnut
4 - 10401	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** An urn contains 6 red and 5 blue balls. Two balls are drawn at random with replacement. Find the probability of getting (i) 2 red balls (ii) 2 blue balls (iii) one red and one blue ball

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5 - 10499	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Two cards are drawn successively with replacement from a well shuffled pack of 52 cards. Find the probability distribution of number of jacks. Click to watch Free Video Solution of this question on Doubtnut
6 - 10501	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A and B toss coin alternately till one of them gets a head and wins the game. If A starts first, find the probability the B will win the game. Click to watch Free Video Solution of this question on Doubtnut
7 - 10516	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A card is drawn at random from a well-shuffled pack of 52 cards. Find the probability that it is neither a ace nor a king. Click to watch Free Video Solution of this question on Doubtnut
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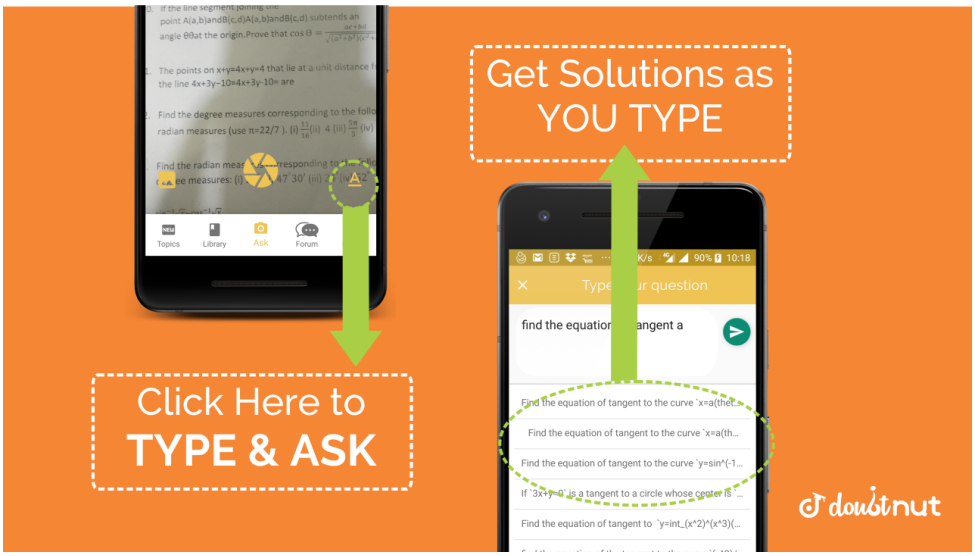
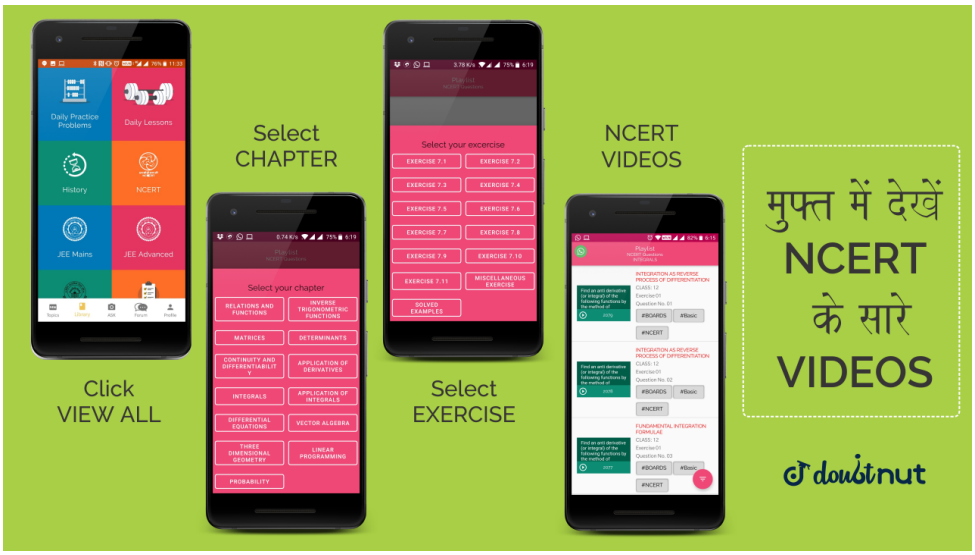
8 - 10520	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** An urn contains 7 red and 4 blue balls. Two balls are drawn at random with replacement. Find the probability of getting (a) 2 red balls (b) 2 blue balls (c) one red and one blue ball. Click to watch Free Video Solution of this question on Doubtnut
9 - 10554	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A and B throw a pair of die turn by turn. The first to throw 9 is awarded a prize. If A starts the game, show that the probability of A getting the prize is $\frac{9}{7}$ Click to watch Free Video Solution of this question on Doubtnut

10 - 10559	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A man is known to speak truth 3 out of 4 times. He throws a die and report that it is a 6. Find the probability that it is actually 6. Click to watch Free Video Solution of this question on Doubtnut
11 - 10581	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A pair of dice is thrown 4 times. If getting a doublet is considered a success, find the probability distribution of number of successes. Click to watch Free Video Solution of this question on Doubtnut
doubtnut पढ़ना हुआ आसान	
12 - 10591	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** An insurance company insured 2000 scooter drivers, 4000 car drivers and 6000 truck drivers. The probability of an accident involving a scooter, a car and a truck are 0.01, 0.03 and 0.15 respectively. One of the insured persons meets with an accident. What is the probability that he is a scooter driver. Click to watch Free Video Solution of this question on Doubtnut
13 - 10615	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Three bags contain balls as shown in the table below: Bag Number of White balls Number of Black balls Number of Red balls I 1 2 3 II 2 1 1 III 4 3 2 A bag is chosen at random and two balls are drawn from it. They happen to be white and red. What is the probability that they came from the III bag? Click to watch Free Video Solution of this question on Doubtnut
14 - 10622	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Find the probability of throwing at most 2 sixes in 6 throws of a single die. Click to watch Free Video Solution of this question on Doubtnut
15 - 10626	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY**

	Find the mean number of heads in three tosses of a fair coin. Click to watch Free Video Solution of this question on Doubtnut
doubtnut पढ़ना हुआ आसान	
16 - 10636	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** An experiment succeeds twice as often as it fails. Find the probability that in the next six trails there will be at least 4 successes. Click to watch Free Video Solution of this question on Doubtnut
17 - 10637	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Assume that the chances of a patient having a heart attack is 40%. Assuming that a meditation and yoga course reduces the risk of heart attack by 30% and prescription of certain drug reduces its chance by 25%. At a time a patient can choose any one of the two options with equal probabilities. It is given that after going through one of the two options, the patient selected at random suffers a heart attack. Find the probability that the patient followed a course of meditation and yoga. Interpret the result and state which of the above stated methods is more beneficial for the patient. Click to watch Free Video Solution of this question on Doubtnut
18 - 10640	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Of the students in a college, it is known that 60% reside in hostel and 40% day scholars (not residing in hostel). Previous year results report that 30% of all students who reside in hostel attain ‘A’ grade and 20% of day cholars attain ‘A’ grade in their annual examination. At the end of the year, one student is chosen at random from the college and he has an ‘A’ grade, what is the probability that the student is a hosteler? Click to watch Free Video Solution of this question on Doubtnut
19 - 10675	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Often it is taken that a truthful person commands, more respect in the society. A man is known to speak the truth 4 out of 5 times. He throws a die and reports that it is actually a six. Find the probability that it is actually a six. Do you also agree that the value of truthfulness leads to more respect in the society?

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20 - 10677	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** In a group of 50 scouts in a camp, 30 are well trained in first aid techniques while the remaining are well trained in hospitality but not in first aid. Two scouts are selected at random from the group. Find the probability distribution of number of selected scouts who are well trained in first aid. Find the mean of the distribution also. Write one more value which is expected from a well trained scout. Click to watch Free Video Solution of this question on Doubtnut
21 - 10684	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A die is thrown again and again until three sixes are obtained. Find the probability of obtaining the third six in the sixth thrown of the die. Click to watch Free Video Solution of this question on Doubtnut
22 - 10736	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A card from a pack of 52 cards is lost. From the remaining cards of the pack, two cards are drawn at random and are found to be both clubs. Find the probability of the lost card being of clubs. Click to watch Free Video Solution of this question on Doubtnut
23 - 10737	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** From a lot of 10 bulbs, which includes 3 defectives, a sample of 2 bulbs is drawn at random. Find the probability distribution of the number of defective bulbs. Click to watch Free Video Solution of this question on Doubtnut
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24 - 10749	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A family has 2 children. Find the probability that both are boys, if it is known that: (i) at least one of the children is a boy, (ii) the elder child is a boy. Click to watch Free Video Solution of this question on Doubtnut
25 - 10753	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** In a certain college, 4% of boys and 1% of girls are taller than 1.75 metres. Furthermore, 60% of the students in the college are girls. A student is selected at random from the college and is found to be taller than 1.75 metres. Find the probability that the selected student is a girl. Click to watch Free Video Solution of this question on Doubtnut
26 - 10784	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Given three identical boxes I, II and III each containing two coins. In box I, both coins are gold coins, in box II, both are silver coins and in box III, there is one gold and one silver coin. A person chooses a box at random and takes out a coin. If the coin is of gold, what is the probability that the other coin in the box is also of gold? Click to watch Free Video Solution of this question on Doubtnut
27 - 10789	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A random variable X has the following probability distribution: $I\ 0\ 1\ 2\ 3\ 4\ 5\ 6\ 7\ P\left(X\right)\ 0\ K\ 2K\ 2K\ 3K\ K^2\ 2K^2\ 7K^2+K$ Determine: (i) K (ii) P(X<3) (iii) P(X > 6) (iv) P (0 < X < 3) Click to watch Free Video Solution of this question on Doubtnut
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28 - 10793	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** How many times must a man toss a fair coin, so that the probability of having at least one head is more than 80%? Click to watch Free Video Solution of this question on Doubtnut
29 - 10823	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Suppose a girl throws a die. If she gets a 5 or 6, she tosses a coin 3 times and notes the number of heads. If she gets 1,2,3 or 4 she tosses a coin once and notes whether a head or tail is obtained. If she obtained exactly one head, what is the probability that she threw 1,2,3, or 4 with the die? Click to watch Free Video Solution of this question on Doubtnut
30 - 10827	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Two cards are drawn simultaneously (without replacement) from a well-shuffled pack of 52 cards. Find the mean and variance of the number of red cards. Click to watch Free Video Solution of this question on Doubtnut
31 - 10870	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A pair of dice is thrown 4 times. If getting a doublet is considered a success, find the probability distribution of the number of successes and hence find its mean. Click to watch Free Video Solution of this question on Doubtnut
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	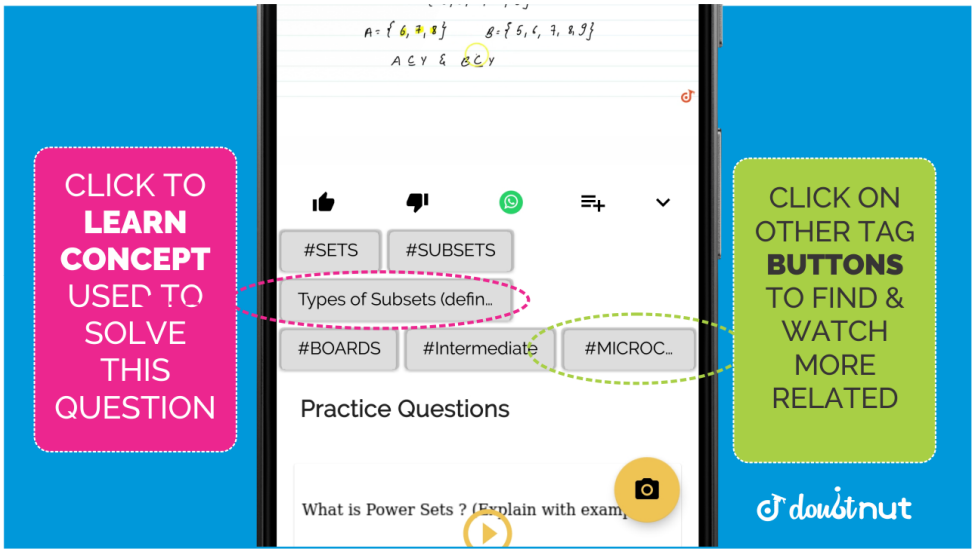
32 - 10889	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A speaks truth in 60% of the cases, while B in 90% of the cases. In what percent of cases are they likely to contradict each other in stating the same fact? In the cases of contradiction do you think, the statement of B will carry more weight as he speaks truth in more number of cases than A? Click to watch Free Video Solution of this question on Doubtnut
33 - 10891	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** In answering a question on a multiple choice test, a student either knows the answer or guesses. Let $\frac{3}{5}$ be the probability that he knows the answer and $\frac{2}{5}$ be the probability that he guesses. Assuming that a student who guesses at the answer will be correct with probability $\frac{1}{3}$, what is the probability that the student knows the answer, given that he answered it correctly? Click to watch Free Video Solution of this question on Doubtnut
34 - 10892	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** An urn contains 4 white and 3 red balls. Let X be the number of red balls in a random draw of three balls. Find the mean and variance of X. Click to watch Free Video Solution of this question on Doubtnut
35 - 10895	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** On a multiple choice examination with three possible answers (out of which only one is correct) for each of the five questions, what is the probability that a candidate would get four or more correct answers just guessing? Click to watch Free Video Solution of this question on Doubtnut
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36 - 10909	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A bag contains 4 balls. Two balls are drawn at random, and are found to be white. What is the probability that all balls are white? Click to watch Free Video Solution of this question on Doubtnut
37 - 10967	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Coloured bills are distributed in three bags as shown in the following table: Bag Colour of the ball Black White Red I 1 2 3 II 2 4 1 III 4 5 3 A bag is selected at random and then two balls are randomly drawn from the selected bag. They happen to be black and red. What is the probability that they came from bag I? Click to watch Free Video Solution of this question on Doubtnut
38 - 11030	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Probabilities of solving a specific problem independently by A and B are $\frac{1}{2}$ and $\frac{1}{3}$ respectively. If both try to solve the problem independently, find the probability that (i) the problem is solved (ii) exactly one of them solves the problem. Click to watch Free Video Solution of this question on Doubtnut
39 - 11035	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Suppose 5% of men and 0.25% of women have grey hair. A grey haired person is selected at random. What is the probability of this person being male? Assume that there are equal number of males and females. Click to watch Free Video Solution of this question on Doubtnut
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40 - 11059	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** The probabilities of two students A and B coming to the school in time are $\frac{3}{7}$ and $\frac{5}{7}$ respectively. Assuming that the events, A coming in time and B coming in time are independent, find the probability of only one of them coming to the school in time. Write at least one advantage of coming to school in time. Click to watch Free Video Solution of this question on Doubtnut
41 - 11066	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Two cards are drawn simultaneously (or successively without replacement) from a well shuffled pack of 52 cards. Find the mean and variance of the number of red cards. Click to watch Free Video Solution of this question on Doubtnut
42 - 11069	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** The probability that A hits a target is $\frac{1}{3}$ and the probability that B hits it is $\frac{2}{5}$. If each one of and B shoots at the target, what is the probability that (i) the target is hit? (ii) exactly one-of-them-hits the target? Click to watch Free Video Solution of this question on Doubtnut
43 - 11086	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** On a multiple choice examination with three possible answers (out of which only one is correct) for each of the five questions, what is the probability that a candidate would get four or more correct answers just by guessing? Click to watch Free Video Solution of this question on Doubtnut
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44 - 13218	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** In a game, a man wins rupees five for a six and loses rupee one for any other number, when a fair die is thrown. The man decided to throw a die thrice but to quit as and when he gets a six. Find the expected value of the amount he wins/loses. Click to watch Free Video Solution of this question on Doubtnut
45 - 13219	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** An urn contains 4 balls. Two balls are drawn at random from the urn (without replacement) and are found to be white. What is the probability that all the four balls in the urn are white ? Click to watch Free Video Solution of this question on Doubtnut
46 - 13224	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A class has 15 students whose ages are 14, 17, 15, 14, 21, 17, 19, 20, 16, 18, 20, 17, 16, 19 and 20 years. One student is selected in such a manner that each has the same chance of being chosen and the age X of the selected student is recorded. What is the probability distribution of the random variable X ? Find the mean of X. Click to watch Free Video Solution of this question on Doubtnut
47 - 13257	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** From a lot of 15 bulbs which include 5 defectives, a sample of 4 bulbs is drawn one by one with replacement. Find the probability distribution of number of defective bulbs. Hence find the mean of the distribution. Click to watch Free Video Solution of this question on Doubtnut
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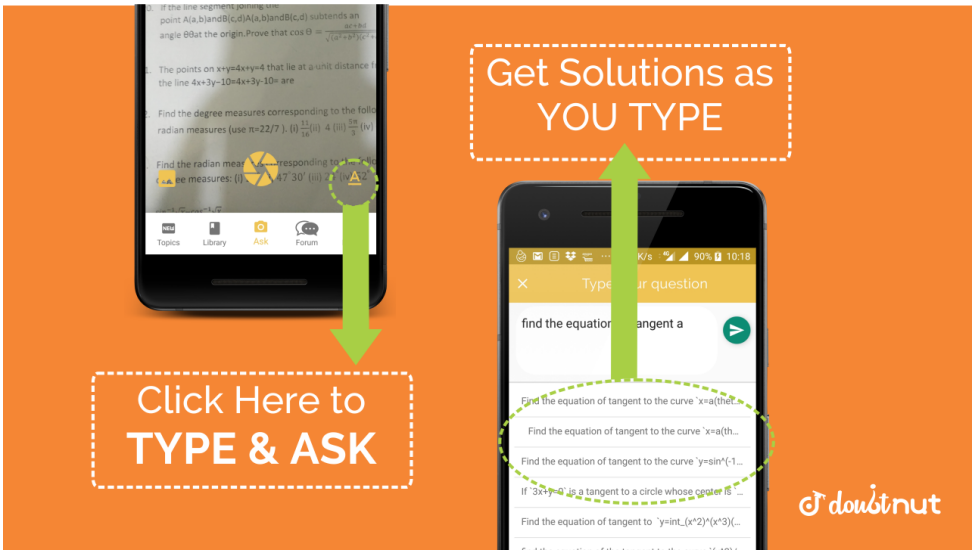

48 - 13258	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** A card from a pack of 52 playing cards is lost. From the remaining cards of the pack three cards are drawn at random (without replacement) and are found to be all spades. Find the probability of the lost card being a spade. Click to watch Free Video Solution of this question on Doubtnut
49 - 13262	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Assume that each born child is equally likely to be a boy or a girl. If a family has two children, what is the conditional probability that both are girls ? Given that (i) the youngest is a girl. (ii) atleast one is a girl. Click to watch Free Video Solution of this question on Doubtnut
50 - 13321	**CLASS 12 PRE-BOARDS SPECIAL - Chapter 13. PROBABILITY** Five cards are drawn one by one, with replacement, from a well shuffled deck of 52 cards. Find the probability that (i) all the five cards are diamonds. (ii) only 3 cards are diamonds. (iii) none is a diamond. Click to watch Free Video Solution of this question on Doubtnut
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