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| Division | 10th |
| Subject | Mathematics |
| Chapter | Probability |
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| Category | 02 |

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| A number is selected at random from the numbers 1 to 30. The probability that it is a prime number is  (2008) |
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| A |
| P = |
| Number of all possible outcomes  Let be the event of 'getting a prime number from the numbers 1 to 30 '  the outcomes favourable to are  the number of outcomes favourable to |
| Basic concepts of probability |

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| Cards bearing numbers are kept in a bag. A card is drawn at random from the bag. The probability of getting a card with a prime number is  (2010) |
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| B |
| P = |
| Total number of cards  number of all possible outcomes  Let be the event of 'getting a card with a prime number  the outcomes favourable to are  the number of outcomes favourable to |
| Basic concepts of probability |

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| A box contains 90 discs, numbered from 1 to 90. If one disc is drawn at random from the box, the probability that it bears a prime number less than 23 is  (2005) |
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| A |
| P = |
| Total number of discs  number of all possible outcomes  Let be the event of 'drawing a disc which bears a prime number less than 23 '  the outcomes favourable to are  the number of outcomes favourable to |
| **Types of events** |

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| A bag contains cards numbered from 1 to 25 . A card is drawn at random from the bag. The probability that the number on this card is divisible by both 2 and 3 is  (2012) |
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| D |
| P = |
| Total number of cards  number of all possible outcomes  Let be the event that 'the card drawn is divisible by both 2 and 3 '  the outcomes favourable to are  the number of outcomes favourable to |
| **Types of events** |

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| Two dice are thrown at the same time and the product of numbers appearing on them is noted. Find the probability that the product is less than 9  (2012) |
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| A |
| The outcomes favourable are  ,  ,  P = |
| Two dice are thrown at the same time, the number of all possible outcomes  Let be the event that 'the product of the numbers appearing on the dice is less than 9'  the outcomes favourable to are  ,  ,  the number of outcomes favourable to |
| **Probability of simple events** |

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| An integer is chosen between 0 and 100. What is the probability that it is divisible by 7 ?  (2017) |
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| C |
| The integers divisible by 7 are  , 98  P = |
| The integers between 0 and 100 are  Number of all possible outcomes  Let be the event that 'the integer chosen is divisible by 7'  The integers divisible by 7 are  , 98  the number of outcomes favourable to |
| **Probability of simple events** |

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| Someone is asked to take a number from 1 to 100. The probability that it is a prime is  (2011) |
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| A |
| The favourable outcomes are  ,  P = |
| Number of all possible outcomes  Let be the event of 'getting a prime number from the numbers 1 to 100'  the outcomes favourable to are  ,  the number of outcomes favourable to |
| **Probability of compound events** |

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| A school has five houses A, B, C, D and E. A class has 23 students, 4 from house A, 8 from house B, 5 from house C, 2 from house and rest from house E. A single student is selected at random to be the class monitor. The probability that the selected student is not from A, B and C is  (2015) |
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| A |
| Total number of students in houses A, B and C  P = |
| Total number of students  number of all possible outcomes  Total number of students in houses A, B and C  total number of remaining students  Let be the event that 'the selected student is not from and ' |
| **Probability of compound events** |

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| The king, queen and jack of clubs are removed from a deck of 52 playing cards and then well shuffled. Now one card is drawn at random from the remaining cards. The probability that the card drawn is a king is  (2010) |
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| D |
| Number of cards remaining in the deck  P = |
| From a deck of 52 playing cards, king, queen and jack of clubs are removed  Number of cards remaining in the deck  the number of all possible outcomes  Let be the event that 'the card drawn is a king.  One king is removed.  number of remaining kings  the number of outcomes favourable to |
| **Complementary events** |

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| The probability that a non-leap year selected at random will contain 53 Sundays is  (2010) |
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| B |
| There are 52 Sundays in 52 weeks  The remaining one day can be Sunday, Monday, Tuesday, Wednesday, Thursday, Friday,  Saturday  P = |
| A non-leap year has 365 days  i.e., 52 weeks and 1 day  There are 52 Sundays in 52 weeks  The remaining one day can be Sunday, Monday, Tuesday, Wednesday, Thursday, Friday,  Saturday  Let be the event that there are 53 Sundays  the number of outcomes favourable to |
| **Complementary events** |

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| If two different dice are rolled together, the probability of getting an even number on both dice is  (2008) |
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| A |
| Favourable Events  ,  the number of outcomes favourable to  P = |
| When two different dice are tossed together, the number of all possible outcomes  Let be the event of 'getting an even number on both dice'  the outcomes favourable to are  ,  the number of outcomes favourable to |
| Mutually exclusive and non-mutually exclusive events |

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| In a family of 3 children, the probability of having at least one boy is  (2010) |
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| C |
| In a family of 3 children, the possible outcomes are  , GGG  P = |
| In a family of 3 children, the possible outcomes are  , GGG  number of all possible outcomes  Let be the event of 'having at least one boy'  the outcomes favourable to are  the number of outcomes favourable to |
| Mutually exclusive and non-mutually exclusive events |

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| A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will not be green?  (2009) |
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| A |
| Total number of marbles  the number of all possible outcomes  P = |
| Total number of marbles  the number of all possible outcomes  Let be the event that 'the marble taken out is green'. Number of green marbles  the number of outcomes favourable to  Let be the event that 'the marble taken out is not green |
| **Multiplication theorem of probability** |

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| A piggy bank contains hundred 50p coins, fifty ₹ 1 coins, twenty ₹ 2 coins and ten ₹ 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin will not be a ₹ 5 coin?  (2014) |
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| A |
| Total number of coins  P = |
| Total number of coins  the number of all possible outcomes  Let be the event that "the coin fallen out is a  ₹5 coin'  Number of outcomes favourable to  Let be the event that 'the coin fallen out not a ₹5 coin' |
| **Multiplication theorem of probability** |

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| The probability of selecting a red ball at random from a jar that contains only red, blue and orange ball is . The probability of selecting a blue ball at random from the same jar is . If the jar contains 10 orange balls, then the total number of balls in the jar is  (2015) |
| 26 |
| 14 |
| 24 |
| 18 |
| C |
| and |
| Let be the event of 'selecting a red ball',  be the event of 'selecting a orange ball' and  be the event of 'selecting a blue ball  and  Let the total number of balls be  According to the given condition, |
| **Conditional probability** |

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| A bag contains 15 white and some black balls. If the probability of drawing a black ball from the bag is thrice that of drawing a white ball, then the number of black balls in the bag is  (2017) |
| 45 |
| 42 |
| 35 |
| 34 |
| A |
| Number of white balls  Total number of balls  Let be the event that 'the ball drawn is black'  Let be the event that 'the ball drawn is white'  According to the given condition, |
| Let the number of black balls in the bag be ' '  Number of white balls  Total number of balls  Let be the event that 'the ball drawn is black'  Let be the event that 'the ball drawn is white'  According to the given condition,  or  The number of balls cannot be negative |
| **Conditional Probability** |

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| One card is drawn from a well-shuffled deck of 52 cards.Find the probability of getting a king of red colour in  (2018) |
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| B |
| P = |
| There are total 52 cards in deck  There are 26 red cards in a deck (13 hearts and 13 diamonds)  Among these, there are 2 red kings.  [Probability](https://www.cuemath.com/data/probability/) of getting a king of red colour = Number of red colour king/Total number of outcomes  We will have 2 red kings (Heart and Diamond)  P(King of red colour)=  =  = |
| **Probability Distribution** |

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| One card is drawn from a well-shuffled deck of 52 cards .Find the probability of getting a face card  (2015) |
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| B |
| P = |
| Let B be the event of 'getting a face card'    In a deck of 52 cards there are 12 face cards  the number of outcomes favourable to |
| **Probability distribution** |

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| One card is drawn from a well-shuffled deck of 52 cards .Find the probability of getting a jack of hearts  (2016) |
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| P = |
| Let be the event of 'getting a jack of hearts'. In a deck of 52 cards there is only one jack of heart    the number of outcomes favourable to |
| **Combining dice and card probabilities** |

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| One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting a red face card  (2015) |
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| A |
| P = |
| Let be the event of getting a red face card'. In a deck of 52 cards there are 6 red face cards    the number of outcomes favourable to |
| **Combining dice and card probabilities** |