

MONOMATH

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CBSE Class 10 Mathematics

Previous Year Questions (2016 - 2025)

Chapter-wise Compilation with Year & Marks

Based on CBSE Board Question Papers

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15+ Years Teaching Experience

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Note: All questions are from CBSE Class 10 Mathematics Board Examinations (2016-2025).

Questions are organized chapter-wise following the NCERT syllabus.

Chapter 1: Real Numbers

Section A: 1 Mark Questions

- Q1. The decimal expansion of the rational number $14587/1250$ will terminate after how many decimal places? [2020]
- Q2. If n is a natural number, then $9^{2n} - 4^{2n}$ is always divisible by which number? [2019]
- Q3. If $\text{HCF}(336, 54) = 6$, find $\text{LCM}(336, 54)$. [2019]
- Q4. The HCF of two numbers is 27 and their LCM is 162. If one of the numbers is 54, find the other. [2018]
- Q5. Express 156 as a product of its prime factors. [2017]
- Q6. What is the HCF of smallest prime number and the smallest composite number? [2018]
- Q7. If p and q are prime numbers, then find $\text{HCF}(p, q)$. [2016]
- Q8. If p and q are prime numbers, then find $\text{LCM}(p, q)$. [2016]
- Q9. If $a = 2^3 \times 3^5$ and $b = 2^5 \times 3^2$, then find $\text{HCF}(a, b)$. [2022]
- Q10. If $a = 2^3 \times 3^5$ and $b = 2^5 \times 3^2$, then find $\text{LCM}(a, b)$. [2022]

Section B: 2 Marks Questions

- Q11. Prove that $3 + 2\sqrt{5}$ is irrational. [2020]
- Q12. Prove that $\sqrt{5}$ is irrational. [2019]
- Q13. Find the HCF and LCM of 96 and 404 by prime factorization method. [2018]
- Q14. Prove that $3 + \sqrt{5}$ is irrational. [2017]
- Q15. Can the number 4^n , n being a natural number, end with digit 0? Give reasons. [2020]

Section C: 3 Marks Questions

Q16. Prove that $2 + 5\sqrt{3}$ is irrational.

[2023]

Q17. Find HCF and LCM of 404 and 96 and verify that $\text{HCF} \times \text{LCM} = \text{Product of the two numbers}$.

[2018]

Q18. The length, breadth and height of a room are 8m 25cm, 6m 75cm and 4m 50cm respectively. Find the longest rod which can measure the three dimensions of the room exactly.

[2019]

Q19. Find the greatest number of 4 digits which is a perfect square.

[2020]

Q20. Three bells toll at intervals of 9, 12 and 15 minutes respectively. If they start tolling together, after what time will they next toll together?

[2022]

Section D: 4 Marks Questions

Q21. Prove that $\sqrt{3}$ is an irrational number.

[2024]

Q22. Show that there is no positive integer n for which $\sqrt{(n-1)} + \sqrt{(n+1)}$ is rational.

[2017]

Q23. Find the HCF of 65 and 117 and express it in the form $65m + 117n$.

[2016]

Q24. Use Euclid's division lemma to show that the square of any positive integer is of the form $3p$ or $3p+1$.

[2017]

Chapter 2: Polynomials

Section A: 1 Mark Questions

Q1. If one zero of the polynomial $3x^2 + 8x + k$ is the reciprocal of the other, find k .

[2020]

Q2. If the sum of the zeroes of the polynomial $p(x) = 2x^3 - 3kx^2 + 4x - 5$ is 6, find k .

[2019]

Q3. Find the zeroes of the polynomial $x^2 - 3$.

[2018]

Q4. Find the quadratic polynomial whose sum of zeroes is -3 and product is 2 .

[2017]

Q5. If α and β are zeroes of $x^2 - 4x + 1$, then find $1/\alpha + 1/\beta$.

[2022]

Q6. If α and β are zeroes of $x^2 - 4x + 1$, then find $\alpha\beta$.

[2022]

Section B: 2 Marks Questions

Q7. Find a quadratic polynomial whose zeroes are (-3) and 4 .

[2020]

Q8. Find the zeroes of the polynomial $4\sqrt{3}x^2 + 5x - 2\sqrt{3}$ and verify the relationship between zeroes and coefficients.

[2019]

Q9. If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4 , find a .

[2018]

Q10. Find the quadratic polynomial whose sum and product of zeroes are $-2\sqrt{3}$ and -9 respectively.

[2023]

Section C: 3 Marks Questions

Q11. Find the zeroes of the polynomial $x^2 - 3$ and verify the relationship between zeroes and coefficients.

[2020]

Q12. Find the zeroes of the polynomial $4u^2 + 8u$ and verify the relationship between zeroes and coefficients.

[2019]

Q13. Find a quadratic polynomial whose zeroes are $3 + \sqrt{5}$ and $3 - \sqrt{5}$.

[2022]

Q14. If α and β are zeroes of the polynomial $x^2 - 5x + 6$, find a polynomial whose zeroes are $1/\alpha$ and $1/\beta$.

[2021]

Section D: 4 Marks Questions

Q15. Find the zeroes of the polynomial $6x^2 - 7x - 3$ and verify the relationship between zeroes and coefficients.

[2024]

Q16. Divide $2x^3 - 3x^2 + 4x + 5$ by $x + 2$ and find the quotient and remainder.

[2017]

Q17. If α and β are zeroes of $x^2 - 2x - 8$, form a quadratic polynomial whose zeroes are 2α and 2β .

[2016]

Q18. If one zero of $2x^2 - 3x + k$ is reciprocal to the other, find k .

[2023]

Chapter 3: Pair of Linear Equations in Two Variables

Section A: 1 Mark Questions

Q1. For what value of k will the equations $x + 2y = 5$ and $3x + ky - 15 = 0$ have no solution?

[2020]

Q2. Find whether the pair of equations $2x + 3y = 5$ and $4x + 6y = 10$ are consistent or inconsistent.

[2019]

Q3. What is the condition for a pair of linear equations to have a unique solution?

[2018]

Q4. For what value of k , the pair of equations $3x + y = 3$ and $6x + ky = 8$ has no solution?

[2022]

Section B: 2 Marks Questions

Q5. Solve for x and y : $x + y = 5$ and $2x - 3y = 4$.

[2020]

Q6. Solve: $x/2 + y/3 = 4$ and $x/2 - y/3 = 2$.

[2018]

Q7. Find the value of k for which the pair of equations $2x + ky = 1$ and $3x - 5y = 7$ has a unique solution.

[2019]

Section C: 3 Marks Questions

Q8. Solve the pair of linear equations: $2x + 3y = 11$, $x - 2y = -12$.

[2023]

Q9. A fraction becomes $4/5$ when 1 is added to numerator and becomes $1/2$ when 1 is subtracted from denominator. Find the fraction.

[2020]

Q10. Solve for x and y : $37x + 43y = 123$, $43x + 37y = 117$.

[2017]

Section D: 4 Marks Questions

Q11. The sum of a two-digit number and the number obtained by reversing the digits is 66. If the digits differ by 2, find the number.

[2024]

Q12. A motorboat takes 6 hours to cover 100 km downstream and 30 km upstream. If it takes 7 hours to go 100 km upstream and 30 km downstream, find the speed of the boat in still water and the speed of the stream.

[2019]

Q13. Solve graphically: $2x + y = 6$ and $2x - y = 2$. Shade the region bounded by these lines and the x-axis.

[2018]

Chapter 4: Quadratic Equations

Section A: 1 Mark Questions

Q1. Find the discriminant of the equation $2x^2 - 4x + 3 = 0$.

[2020]

Q2. For what value of k , the equation $x^2 + kx + 9 = 0$ has equal roots?

[2019]

Q3. Find the roots of the equation $x^2 - 9 = 0$.

[2018]

Q4. If the quadratic equation $2x^2 + 3x + k = 0$ has equal roots, find k .

[2022]

Section B: 2 Marks Questions

Q5. Solve for x : $x^2 - 2x - 8 = 0$.

[2020]

Q6. Find the value of k for which the equation $9x^2 - 3kx + 4 = 0$ has equal roots.

[2018]

Q7. Solve: $2x^2 + 3x - 5 = 0$.

[2019]

Q8. If one root of $2x^2 + kx + 6 = 0$ is $-3/2$, find k .

[2017]

Section C: 3 Marks Questions

Q9. Find the nature of roots of $3x^2 - 4\sqrt{3}x + 4 = 0$. If real, find them.

[2023]

Q10. Solve for x : $2x^2 - 7x + 3 = 0$ using quadratic formula.

[2020]

Q11. A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 1 hour less. Find the speed of the train.

[2019]

Q12. Solve for x : $(x-3)(x-4) = 34/(33)^2$.

[2017]

Section D: 4 Marks Questions

Q13. Two water taps together can fill a tank in $9\frac{3}{8}$ hours. The tap of larger diameter takes 10 hours less than the smaller one. Find the time each tap takes to fill the tank.

[2024]

Q14. A plane left 30 minutes late than its schedule time, and in order to reach its destination 1500 km away in time, it had to increase its speed by 100 km/h. Find its usual speed.

[2018]

Q15. Find the value of k for which the quadratic equation $(k+4)x^2 + (k+1)x + 1 = 0$ has equal roots.

[2016]

Q16. Solve for x : $\frac{1}{x+1} + \frac{2}{x+2} = \frac{4}{x+4}$, $x \neq -1, -2, -4$.

[2022]

Chapter 5: Arithmetic Progressions

Section A: 1 Mark Questions

Q1. Find the common difference of AP: 3, 1, -1, -3, ...

[2020]

Q2. Which term of AP: 21, 18, 15, ... is -81?

[2019]

Q3. Find the sum of first 10 natural numbers.

[2018]

Q4. Write the n th term of AP: a , $a+d$, $a+2d$, ...

[2022]

Q5. If the n th term of AP is $2n + 1$, find the sum of first n terms.

[2017]

Section B: 2 Marks Questions

Q6. Find the sum of first 40 positive integers divisible by 6.

[2020]

Q7. How many two-digit numbers are divisible by 7?

[2019]

Q8. Find the sum of first 15 terms of AP: -37, -33, -29, ...

[2018]

Q9. If the sum of first n terms of AP is $n^2 + 2n$, find the n th term.

[2023]

Section C: 3 Marks Questions

Q10. The sum of first n terms of an AP is $5n^2 + 3n$. Find the AP and its 10th term.

[2022]

Q11. Find how many integers between 200 and 500 are divisible by 7.

[2020]

Q12. The sum of 4th and 8th terms of AP is 24 and sum of 6th and 10th terms is 44. Find the first three terms.

[2019]

Section D: 4 Marks Questions

Q13. In an AP of 50 terms, the sum of first 10 terms is 210 and sum of last 15 terms is 2565. Find the AP.

[2024]

Q14. The angles of a triangle are in AP. If the greatest angle equals the sum of the other two, find the angles.

[2018]

Q15. If $S_n = 3n^2 + 4n$, find the AP. Also find the 10th term.

[2017]

Q16. A sum of Rs. 700 is to be used to give 7 cash prizes to students of a school. If each prize is Rs. 20 less than the preceding prize, find the value of each prize.

[2016]

Chapter 6: Triangles

Section A: 1 Mark Questions

Q1. In $\triangle ABC$, $DE \parallel BC$ where D and E are on AB and AC respectively. If $AD:DB = 3:2$, find $AE:EC$.

[2020]

Q2. State the basic proportionality theorem.

[2019]

Q3. In a $\triangle ABC$, if $DE \parallel BC$ and $AD/DB = 2/3$, find AE/EC .

[2018]

Q4. If $\triangle ABC \sim \triangle DEF$, $AB=4\text{cm}$, $DE=6\text{cm}$, find the ratio of areas.

[2022]

Section B: 2 Marks Questions

Q5. In the figure, $DE \parallel BC$. If $AD=2\text{cm}$, $DB=3\text{cm}$, and $AE=4\text{cm}$, find EC .

[2020]

Q6. Prove that in a right triangle, the square of hypotenuse equals sum of squares of other two sides.

[2018]

Q7. In a $\triangle ABC$, AD is median. Prove that $AB^2 + AC^2 = 2(AD^2 + BD^2)$.

[2019]

Section C: 3 Marks Questions

Q8. ABC is a triangle, D and E are points on AB and AC such that $DE \parallel BC$. If $AD=2\text{cm}$, $DB=3\text{cm}$, and $AE=3\text{cm}$, find EC .

[2023]

Q9. In a $\triangle ABC$, AD is perpendicular to BC. Prove that $AB^2 - BD^2 = AC^2 - CD^2$.

[2020]

Q10. A ladder 10 m long reaches a window 8 m above ground. Find the distance of foot of ladder from the wall.

[2019]

Section D: 4 Marks Questions

Q11. Prove that the ratio of areas of two similar triangles equals the square of ratio of their corresponding sides.

[2024]

Q12. In a right triangle ABC, right-angled at B, BD is perpendicular to AC. Prove that $BD^2 = AD \times DC$.

[2018]

Q13. State and prove the Basic Proportionality Theorem (Thales Theorem).

[2017]

Q14. A vertical pole of length 6m casts a shadow 4m long on the ground. At the same time, a tower casts a shadow 28m long. Find the height of the tower.

[2022]

Chapter 7: Coordinate Geometry

Section A: 1 Mark Questions

Q1. Find the distance of the point (3, 4) from the origin.

[2020]

Q2. Find the mid-point of the line joining (-3, 4) and (1, -2).

[2019]

Q3. Find the point on x-axis which is equidistant from (2, -5) and (-2, 9).

[2018]

Q4. If the distance between (2, -1) and (5, k) is 5, find k.

[2022]

Section B: 2 Marks Questions

Q5. Find the coordinates of the point which divides the join of (-1, 7) and (4, -3) in the ratio 2:3.

[2020]

Q6. For what value of k are the points (1, 4), (k, -2) and (-3, 16) collinear?

[2019]

Q7. Find the area of the triangle with vertices (3, 4), (5, 6) and (7, 8).

[2018]

Q8. Find the value of p for which points (-1, 3), (2, p) and (5, -1) are collinear.

[2023]

Section C: 3 Marks Questions

Q9. If A(4, 2), B(7, 5), C(9, 7) are three points, show that A, B, C are collinear.

[2022]

Q10. Find the centre of a circle passing through points (6, -6), (3, -7) and (3, 3).

[2020]

Q11. If A(-2, 1), B(a, 0), C(4, b) and D(1, 2) are vertices of a parallelogram, find a and b.

[2019]

Section D: 4 Marks Questions

Q12. Find the ratio in which the line segment joining A(1, -5) and B(-4, 5) is divided by the x-axis. Also find the coordinates of the point of division.

[2024]

Q13. If P(2, -1), Q(3, 4), R(-2, 3) and S(-3, -2) are four points, show that PQRS is a rhombus.

[2018]

Q14. Find the coordinates of the points of trisection of the line segment joining $(4, -1)$ and $(-2, -3)$.

[2017

Chapter 8: Introduction to Trigonometry

Section A: 1 Mark Questions

Q1. If $\sin A = 3/5$, find $\cos A$.

[2020]

Q2. Find the value of $\sin 60^\circ \cos 30^\circ - \cos 60^\circ \sin 30^\circ$.

[2019]

Q3. If $\sec \theta = 13/12$, find $\sin \theta$.

[2018]

Q4. What is the value of $(\tan 60^\circ)/(\cot 30^\circ)$?

[2022]

Q5. If $\tan A = \sqrt{3}$, find the value of $\sin A \times \cos A$.

[2017]

Section B: 2 Marks Questions

Q6. Prove that: $(1 + \tan^2 A)/(1 + \cot^2 A) = \tan^2 A$.

[2020]

Q7. If $\cot \theta = 7/8$, evaluate $(1 + \sin \theta)(1 - \sin \theta)/(1 + \cos \theta)(1 - \cos \theta)$.

[2019]

Q8. Prove: $\sin^4 \theta + \cos^4 \theta = 1 - 2 \sin^2 \theta \cos^2 \theta$.

[2018]

Q9. Evaluate: $(\sin 45^\circ \cos 45^\circ + \tan 45^\circ)/(\sec 60^\circ - \cot 45^\circ)$

[2023]

Section C: 3 Marks Questions

Q10. Prove that: $(\sin \theta - 2 \sin^3 \theta)/(2 \cos^3 \theta - \cos \theta) = \tan \theta$.

[2022]

Q11. If $\sin \theta + \cos \theta = \sqrt{2} \cos \theta$, prove that $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$.

[2020]

Q12. Prove: $(\operatorname{cosec} A - \sin A)(\sec A - \cos A) = 1/(\tan A + \cot A)$.

[2019]

Q13. Prove: $(1 + \sec A)/\sec A = \sin^2 A/(1 - \cos A)$.

[2018]

Section D: 4 Marks Questions

Q14. Prove that: $(\sin A - \operatorname{cosec} A)^2 + (\cos A - \sec A)^2 = \cot^2 A + \tan^2 A - 1$.

[2024]

Q15. If $\tan \theta + \sec \theta = l$, prove that $\sec \theta = \frac{l^2 + 1}{2l}$.

[2017]

Q16. Prove: $\frac{\operatorname{cosec} A}{\operatorname{cosec} A - 1} + \frac{\operatorname{cosec} A}{\operatorname{cosec} A + 1} = 2 \sec^2 A$.

[2016]

Chapter 9: Some Applications of Trigonometry

Section B: 2 Marks Questions

Q1. The angle of depression of a boat from a 50 m high lighthouse is 60° . Find the distance of the boat from the lighthouse.

[2020]

Q2. A ladder makes an angle of 60° with the ground when placed against a wall. If the foot of the ladder is 2 m from the wall, find the length of the ladder.

[2018]

Section C: 3 Marks Questions

Q3. From the top of a 7 m high building, the angle of elevation of the top of a cable tower is 60° and angle of depression of its foot is 45° . Find the height of the tower.

[2023]

Q4. A kite is flying at a height of 60 m above ground. The string attached to the kite is temporarily tied to a point on the ground. The inclination of the string with ground is 60° . Find the length of the string.

[2020]

Q5. The shadow of a tower standing on level ground is found to be 40 m longer when the sun's altitude is 30° than when it is 60° . Find the height of the tower.

[2019]

Section D: 4 Marks Questions

Q6. From a point on the ground, the angles of elevation of the bottom and top of a transmission tower fixed at the top of a 20 m high building are 45° and 60° respectively. Find the height of the tower.

[2024]

Q7. The angles of depression of two ships from the top of a lighthouse 100 m high are 45° and 30° respectively. Find the distance between the ships.

[2018]

Chapter 10: Circles

Section A: 1 Mark Questions

Q1. How many tangents can a circle have?

[2020]

Q2. In the figure, if TP and TQ are tangents to a circle with centre O, find $\angle PTQ$ if $\angle POQ = 110^\circ$.

[2019]

Q3. The length of tangent from a point A at distance 15 cm from centre is 12 cm. Find radius.

[2018]

Section B: 2 Marks Questions

Q4. Prove that tangents drawn from an external point to a circle are equal.

[2020]

Q5. If tangents PA and PB from an external point P to a circle with centre O are inclined at 80° , find $\angle POA$.

[2019]

Q6. A point P is at distance 17 cm from centre of circle and length of tangent from P is 15 cm. Find radius.

[2023]

Section C: 3 Marks Questions

Q7. In the figure, a circle touches all four sides of quadrilateral ABCD. If $AB = 6$ cm, $BC = 7$ cm, $CD = 4$ cm, find AD.

[2022]

Q8. Prove that the tangent at any point of a circle is perpendicular to the radius through the point of contact.

[2018]

Q9. Two tangents TP and TQ are drawn to a circle with centre O from an external point T. Prove that $\angle PTQ = 2\angle OPQ$.

[2020]

Chapter 11: Areas Related to Circles

Section A: 1 Mark Questions

Q1. Find the area of a circle whose circumference is 22 cm.

[2020]

Q2. If the perimeter of a semicircle is 36 cm, find its radius.

[2019]

Q3. Write the formula for area of a sector of angle θ .

[2018]

Section B: 2 Marks Questions

Q4. Find the area of a sector of a circle of radius 14 cm with central angle 60° .

[2020]

Q5. The minute hand of a clock is 14 cm long. Find the area swept by it in 5 minutes.

[2019]

Q6. Find the area of the quadrant of a circle whose circumference is 22 cm.

[2023]

Section C: 3 Marks Questions

Q7. Find the area of the segment of a circle of radius 14 cm, if the angle of the corresponding sector is 60° . (Use $\sqrt{3} = 1.73$)

[2022]

Q8. The area of a circular playground is 22176 m^2 . Find the cost of fencing it at Rs. 50 per m.

[2020]

Q9. In a circle of radius 21 cm, an arc subtends an angle of 60° at centre. Find area of sector and length of arc.

[2018]

Chapter 12: Surface Areas and Volumes

Section A: 1 Mark Questions

Q1. Write the formula for volume of a cone.

[2020]

Q2. Find the curved surface area of a cylinder with radius 7 cm and height 10 cm.

[2019]

Q3. Write the formula for volume of a sphere.

[2018]

Q4. Find the total surface area of a cube of side 5 cm.

[2022]

Section B: 2 Marks Questions

Q5. A toy is in the form of a cone of radius 3.5 cm mounted on a hemisphere of same radius. If total height of toy is 15.5 cm, find its total surface area.

[2020]

Q6. Find the volume of the largest right circular cone that can be cut out of a cube of edge 7 cm.

[2019]

Q7. A cone of height 24 cm and radius of base 6 cm is made up of clay. A child reshapes it in the form of a sphere. Find the radius of the sphere.

[2023]

Section C: 3 Marks Questions

Q8. A metallic sphere of radius 4.2 cm is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of the cylinder.

[2022]

Q9. The radii of the ends of a frustum of a cone 45 cm high are 28 cm and 7 cm. Find its volume, curved surface area and total surface area.

[2020]

Q10. A solid is in the shape of a cone surmounted on a hemisphere. The radius of each is 3.5 cm and total height is 9.5 cm. Find the volume of the solid.

[2018]

Section D: 4 Marks Questions

Q11. Water in a canal, 6 m wide and 1.5 m deep, is flowing at speed of 10 km/h. How much area will it irrigate in 30 minutes, if 8 cm of standing water is needed?

[2024]

Q12. A pen stand made of wood is in the shape of a cuboid with four conical depressions. The dimensions of cuboid are $15\text{ cm} \times 10\text{ cm} \times 3.5\text{ cm}$. The radius of each depression is 0.5 cm and depth is 1.4 cm . Find the volume of wood in the stand.

[2019]

Q13. A vessel is in the form of a hollow hemisphere mounted by a hollow cylinder. The diameter of hemisphere is 14 cm and total height of vessel is 13 cm . Find inner surface area.

[2017]

Chapter 13: Statistics

Section A: 1 Mark Questions

Q1. Find the median of first 10 prime numbers.

[2020]

Q2. What is the mean of first n natural numbers?

[2019]

Q3. Write the formula for mode of grouped data.

[2018]

Q4. Find the median of 2, 3, 5, 7, 9.

[2022]

Section B: 2 Marks Questions

Q5. Find the mean of the following data: 5, 8, 12, 15, 20.

[2020]

Q6. If the mean of 5, 7, 9, x , 13, 17 is 11, find x .

[2019]

Q7. Find the mode: 2, 3, 3, 5, 5, 5, 7, 7, 9.

[2023]

Section C: 3 Marks Questions

Q8. Calculate the mean of the following frequency distribution using step-deviation method.

[2022]

Q9. Find the median of the following data: CI: 0-10, 10-20, 20-30, 30-40, 40-50; f: 5, 8, 12, 7, 3.

[2020]

Q10. The mean of the following data is 18.75. Find the missing frequency: CI: 10-15, 15-20, 20-25, 25-30, 30-35; f: 7, 18, f_1 , 19, 8.

[2019]

Section D: 4 Marks Questions

Q11. Find the mode of the following frequency distribution: CI: 0-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70; f: 8, 12, 20, 25, 18, 10, 7.

[2024]

Q12. The median of the given data is 28.5. Find the values of x and y : CI: 0-10, 10-20, 20-30, 30-40, 40-50, 50-60; Total frequency = 60; f: 6, x , 20, 15, y , 5.

[2018]

Chapter 14: Probability

Section A: 1 Mark Questions

Q1. What is the probability of an impossible event?

[2020]

Q2. A die is thrown once. Find the probability of getting a prime number.

[2019]

Q3. From a well-shuffled deck of 52 cards, what is the probability of drawing a red card?

[2018]

Q4. Two coins are tossed simultaneously. Find the probability of getting at least one head.

[2022]

Section B: 2 Marks Questions

Q5. Cards bearing numbers 1 to 25 are placed in a bag. One card is drawn at random. Find the probability that the number is a prime number.

[2020]

Q6. A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out at random. Find probability that it is not white.

[2019]

Q7. What is the probability that a randomly selected leap year has 53 Sundays?

[2023]

Section C: 3 Marks Questions

Q8. Two dice are thrown simultaneously. Find the probability of getting: (i) a doublet (ii) sum as 9.

[2022]

Q9. A bag contains 3 red balls and 5 black balls. A ball is drawn at random. What is the probability that it is (i) red (ii) not red?

[2020]

Q10. A card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting (i) a king (ii) a red face card (iii) a spade.

[2019]

Section D: 4 Marks Questions

Q11. Two customers are visiting a shop. The probability that both will make a purchase is 0.3 and probability that at least one will make a purchase is 0.7. Find the probability that a customer will make a purchase.

[2024]

Q12. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random, find the probability that it bears (i) a two-digit number (ii) a perfect square number (iii) a number divisible by 5.

[2018]

Q13. A game consists of tossing a coin 3 times and noting the outcome. A girl wins if she gets at least two heads. Find the probability of losing the game.

[2017]