

KENDRIYA VIDYALAYA MATHEMATICS PORTFOLIO



2024-2025

CLASS 10





PERSONAL INFORMATION

NAME :

ADMISSION NUMBER :

SECTION :

ROLL NO :

DATE OF BIRTH :

MOTHER'S NAME :

FATHER'S NAME :

MOBILE NUMBER :

E-MAIL ADDRESS :

YOUR FAVOURITE MATHS TOPICS :

1.

2.

3.

PASSPORT
SIZE
PHOTO

Student's Signature

1. Define Mathematics in your words.

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2. Define Rational Numbers and their Decimal Expansions.

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3. Define Irrational Numbers and their Decimal Expansion.

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4. Define Polynomials and write its types.

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5. Define zero of a Polynomial.

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6. Complete the following Identities.

$$(x + y)^2 =$$

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$$(x - y)^2 =$$

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$$x^2 - y^2 =$$

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$$(x + a)(x + b) =$$

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$$(x + y + z)^2 =$$

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$$(x + y)^3 =$$

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$$(x - y)^3 =$$



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$$x^3 + y^3 =$$

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$$x^3 - y^3 =$$

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$$x^3 + y^3 + z^3 - 3xyz =$$

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7. Explain relationship between zeroes and co-efficient of a quadratic polynomial.

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8. Explain relation between Graphical representation and Algebraic Interpretation of Pair of linear equations in two variables using coefficients of a pair of linear equations in two variables.

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9. Explain relation between coefficients and nature of roots of a quadratic equation.

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10. Define Arithmetic Progressions in your words.

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11. Write formula for n^{th} term, sum of n terms and meaning of terms used in formulas.

12. Explain similarity and write all similarity criteria for similarity of 2 triangles with brief description.

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13. State Basic Proportionality Theorem.

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14. Write Distance Formula, Section formula and meaning of terms used in formulas.

15. Explain Trigonometry and Trigonometric Ratios in your words.

16. Write all Trigonometric Ratios for Angle A of a $\triangle ABC$ in terms of its sides.

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17. Make Trigonometry Table.

[illegible]

18. Define line of sight, angle of elevation and angle of depression.

[illegible]

19. Define Tangent to a circle and point of contact.

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20. Write formula for length of arc, area of sector and area of segment of a circle with angle θ and meaning of terms used in formulas.

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21. Write Following Formulas.

Lateral Surface Area of a Cuboid :

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Lateral Surface Area of a Cube :

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Curved Surface Area of a Cylinder :

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Curved Surface Area of a Cone :

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Curved Surface Area of a Hemisphere :

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Total Surface Area of a Cuboid :

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Total Surface Area of a Cube :

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Total Surface Area of a Cylinder :

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Total Surface Area of a Cone :

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Surface Area of a Sphere :

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Total Surface Area of a Hemisphere :

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Volume of a Cuboid :

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Volume of a Cube :

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Volume of a Cylinder :

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Volume of a Cone :

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Volume of a Sphere :

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Volume of a Hemisphere :

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22. Define Mean, Mode and Median in your words.

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23. Write formulas for mean of grouped data and also write the meaning of terms used in it.

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24. Write Formula for Mode of grouped data and also write the meaning of the terms used in it.

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25. Write Formula for Median of grouped data and also write the meaning of the terms used in it.

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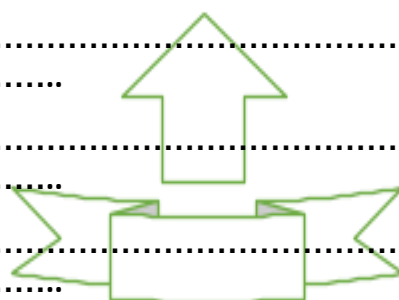
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26. Define Followings terms in your words.

Probability, Equally Likely Outcomes, Random Experiment and Sample Space.



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Signature of Subject Teacher