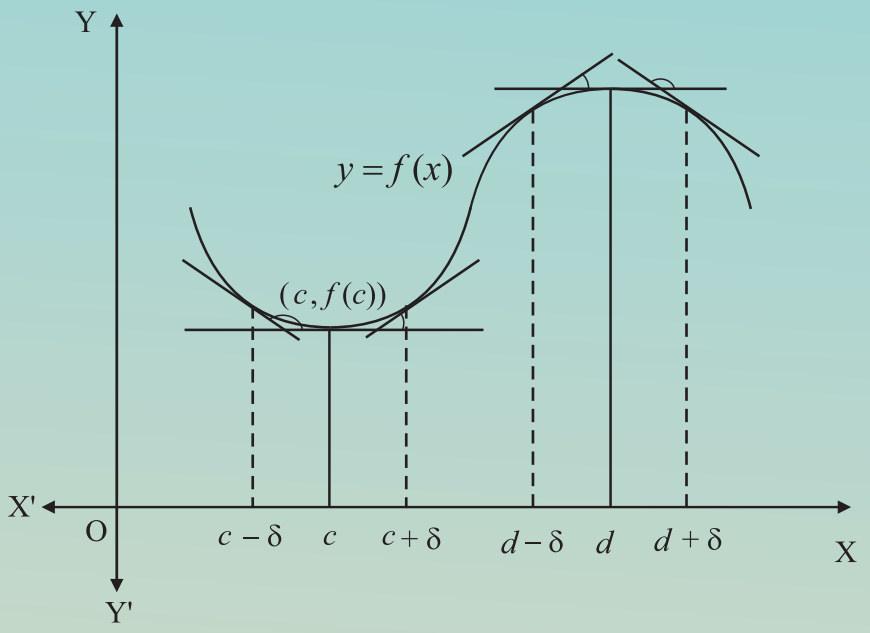
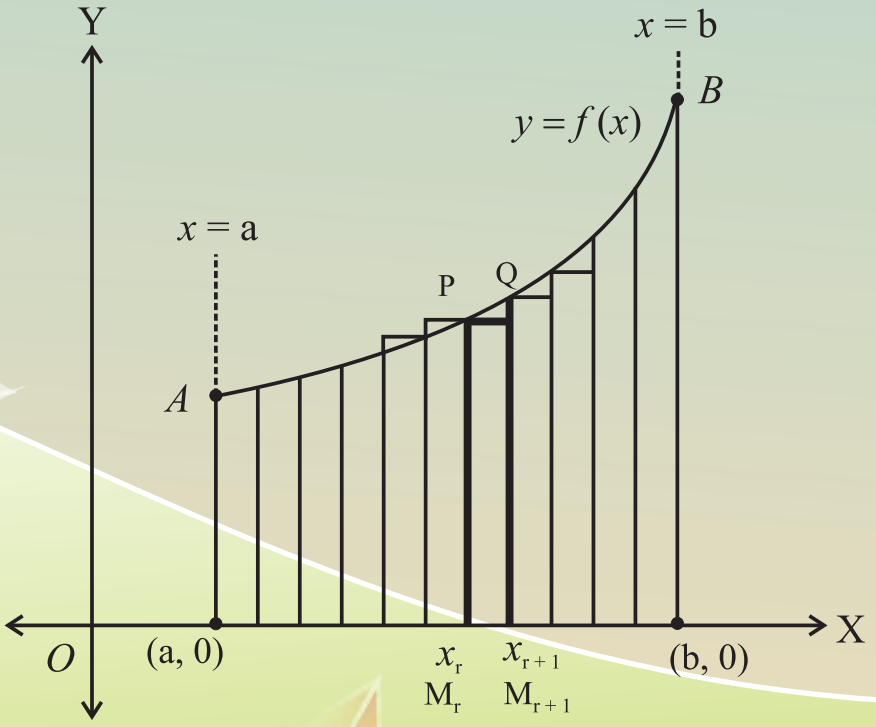
Mathematics & Statistics

Arts & Science Part 2

STANDARD XII





Mathematics and Statistics XII (Part II)
Arts and Science

Sr. No	Area / Topic	Sub Unit	Competency Statement
1.	Differentiation	Differentiation	The students will be able to • state and use standard formulas of derivative of standard functions • use chain rule of derivatives • find derivatives of the logarithm, implicit, inverse and parametric functions • find second and higher order derivatives.
2.	Applications of Derivatives	Applications of Derivatives	• find equations of tangents and normal to a curve • determine nature of the function- increasing or decreasing • find approximate values of the function • examine function for maximum and minimum values • verify mean value theorems
3.	Indefinite Integration	Indefinite Integration	• understand the relation between derivative and integral • use the method of substitution • solve integrals with the help of integration by parts • solve the integrals by the method of partial fractions
4.	Definite Integration	Definite Integration	• understand integral as a limit of sum • the properties of definite integral • state the properties of definite integral and use them to solve problems

5.	Application of Definite Integration	Application of Definite Integration	• find the area under the curve, bounded by the curves using definite integrals.
6.	Differential Equation	Differential Equation	• form a differential equation and find its order and degree • solve the first order and first degree differential equation by various methods • apply the differential equations to study the polpulation, growth and decay in amount of substance and physics.
7.	Probability Distribution	Probability Distribution	• understand the random variable and its types. • find probability mass function and its probability distribution. • find the expected value, variance and the standard deviation • find the probability density function of continuous random variable • find distribution function of c.r.v.
8	Binomial Distribution	Binomial Distribution	• understand random experiment with two or more outcomes. • determine probability distribution of random experiment with parameters n and p. • find mean, variance, expected value and standard deviation for the binomial distribution.

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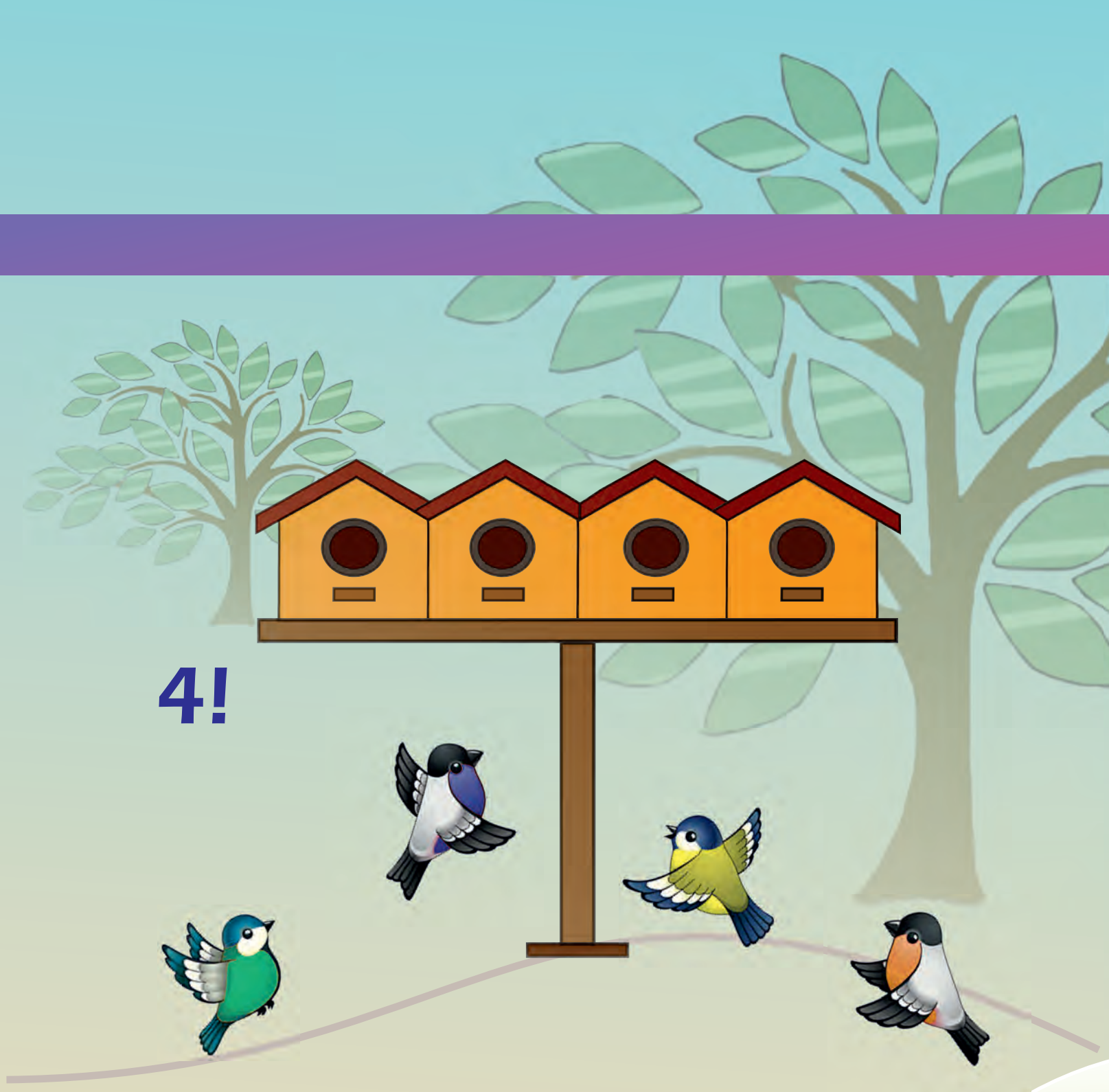

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