

# **Pre-Calculus Lessons**

#### Live 1:1 Sessions

---

# **Algebraic Concepts**

- Polynomials: Types, addition, subtraction, multiplication, and division
- Equations and Inequalities: Linear, quadratic, exponential, logarithmic, and trigonometric
- Functions: Domain, range, even/odd functions, operations, and inverse functions

## **Trigonometry**

- Trigonometric Ratios: Sine, cosine, and tangent
- Unit Circle: Introduction and applications
- Inverse Trigonometric Functions: Graphs and equations
- Trigonometric Identities: Angle addition and subtraction formulas

# Functions and Graphs

- Elementary Functions: Linear, quadratic, polynomial, rational, exponential, and logarithmic
- Graphing Techniques: Intercepts, symmetry, asymptotes, shifts, stretches, and reflections
- Conic Sections: Circles, parabolas, ellipses, and hyperbolas

#### **Matrices and Vectors**

- Matrix Operations: Addition, subtraction, multiplication, and row operations
- Determinants and Inverses: Finding determinants and inverses of matrices
- Vector Operations: Addition, subtraction, and scalar multiplication
- Applications of Vectors: Solving problems in physics and engineering

### **Sequences and Series**

- Arithmetic and Geometric Sequences: Formulas and applications
- Series: Summation notation and formulas
- Probability and Combinatorics: Basic concepts and applications

### **Complex Numbers**

- Imaginary Numbers: Introduction and operations
- Complex Plane: Graphing complex numbers
- Polar Form: Converting between rectangular and polar forms

Book A Free Demo Session Today-

https://guruathome.org/book-a-free-trial-class/

# +91 7014835141, +91 8440868293

www.guruathome.org