

Paresh — **this is 100% possible.**

Even if you start from **Class-1 level**, in **3 months** you can reach **intermediate math**, enough for:

- ✓ Statistics for Data Engineering
- ✓ Probability
- ✓ ML basics (mean, variance, derivatives intuition)
- ✓ Logical reasoning
- ✓ Word problems
- ✓ Quantitative aptitude

I'll give you a **clear 3-month roadmap**, starting literally from Class-1 math (numbers, counting), and slowly rising to statistics + ML-level math.

This plan is for someone who feels **weak in math**, but is serious about becoming strong.

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## 📅 3-MONTH MATH ROADMAP

From Class-1 Level → Intermediate → ML-ready math

- ⚡ **Daily study time: 1–1.5 hours**
  - ⚡ **Weekly test + revision** included
  - ⚡ Fully beginner-friendly
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## 📖 MONTH 1 — CLASS 1 TO CLASS 5 LEVEL (FOUNDATION)

🎯 **Goal: Become strong in the basics (numbers → arithmetic → fractions → decimals)**

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### WEEK 1 — Class 1–2 Basics

- Counting (1–1000)
  - Place value: units, tens, hundreds, thousands
  - Greater than / less than
  - Number line
  - Odd & even numbers
  - Basic addition & subtraction
- Outcome:** You understand numbers confidently.
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### WEEK 2 — Class 3 Basics

- Addition with carry
- Subtraction with borrowing
- Multiplication ( $2 \times 1$ ,  $2 \times 2$ ,  $3 \times 2$ )
- Division basics (long division)
- Word problems (very easy)

**Outcome:** You become stable with  $+$   $-$   $\times$   $\div$

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## WEEK 3 — Class 4 Basics

- Fractions
  - Proper / improper
  - Equivalent fractions
  - Converting fractions  $\leftrightarrow$  decimals
- Basic decimals
  - 0.25, 0.10, etc
- Multiplying decimals
- Dividing decimals

**Outcome:** You understand the core of all math: **fractions + decimals**

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## WEEK 4 — Class 5 Basics

- Percentage
  - 10%, 20%, 30%, 50%, 100%
  - Convert %  $\leftrightarrow$  fraction  $\leftrightarrow$  decimal
- Ratio & proportion
- Basic average
- Speed–distance–time (simple version)

**Outcome:** You reach *everyday math level*, strong enough for analytics.

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# MONTH 2 — CLASS 6 TO CLASS 10 LEVEL (UPPER FOUNDATION)

 **Goal:** Prepare for statistics + ML foundation

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## WEEK 5 — Arithmetic Mastery

- Factors & multiples
  - LCM / HCF
  - Prime numbers
  - More division, word problems
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## WEEK 6 — Pre-Algebra

- Introduction to algebra
  - what is  $x$ ?
  - solving simple equations
- Basics of expressions
- Simple linear equations
  - $2x + 5 = 15$

○  $3x - 4 = 8$

**Outcome:** You start logical mathematical thinking.

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## WEEK 7 — Geometry Basics

(ONLY the parts needed for ML/statistics)

- Area
  - Perimeter
  - Coordinate plane (x, y basics)
  - Distance between 2 points (very basic)
- No heavy geometry.
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## WEEK 8 — Statistics Foundation (Class 8–9 level)

THIS IS IMPORTANT FOR ML + DATA ENGINEERING:

- Mean
- Median
- Mode
- Range
- Frequency tables
- Basic graphs: bar, line, histogram

**Outcome:** You are ready to enter real statistics.

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# MONTH 3 — ML MATH LEVEL (INTERMEDIATE)

🎯 **Goal:** Learn math needed for Machine Learning & Analytics

This is where real growth happens.

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## WEEK 9 — Probability Basics

- Experiment, sample space
- Outcomes
- Simple probability
  - e.g., dice, coins
- Independent vs. dependent events

**Outcome:** Probability intuition.

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## WEEK 10 — Algebra for ML

- Linear equations
- Systems of equations
- Basics of functions
  - $f(x)$  notation

- Slope of a line (very important in ML)
- Intercept
- Graph intuition

**Outcome:** Understanding line equations → needed for Linear Regression.

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## WEEK 11 — Statistics for ML

- Variance
- Standard deviation
- Z-score
- Outliers
- Normal distribution
- Skewness
- Sample vs population
- Covariance
- Correlation

**Outcome:** Real ML foundation is built here.

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## WEEK 12 — ML Math Basics

(You don't need heavy calculus — only intuition)

- Gradient (concept only)
- Derivative meaning (simple explanation)
- Optimization: what is minimization?
- Cost function concept
- Linear Regression math
- Logistic Regression basics
- Matrix basics (used in ML)
  - rows, columns
  - matrix addition
  - matrix multiplication (small examples)

**Outcome:** You reach **intermediate math**, fully ready for ML basics & data engineering logic.

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## AFTER 3 MONTHS YOU WILL ACHIEVE

- ✓ Confident with all basic math
- ✓ Ready for statistics and ML
- ✓ Can solve average/percentage/fractions fast
- ✓ Understand probability
- ✓ Comfortable with algebra
- ✓ Strong for Data Engineering logic
- ✓ Ready for SQL + ETL + analytics interview math
- ✓ Can study ML without fear