**1-Month Study Plan for Algebra**

**Topics:**

* Polar representation of complex numbers
* nth roots of unity
* De Moivre’s theorem
* Theory of equations: Relationship between roots and coefficients

**Resources:**

* **YouTube Videos:**
  + [Complex Numbers in Hindi](https://www.youtube.com/results?search_query=complex+numbers+in+hindi)
  + [De Moivre's Theorem Explained](https://www.youtube.com/results?search_query=De+Moivre%27s+Theorem+in+hindi)
* **Articles:**
  + [Complex Numbers Basics](https://www.geeksforgeeks.org/complex-numbers-in-hindi/)
  + [Understanding Polynomial Equations](https://www.tutorialspoint.com/polynomial-equations-in-hindi)
* **Books:**
  + "Higher Algebra" by Hall and Knight (check Hindi translation)
  + "Algebra Made Easy" by W. W. Sawyer (if available in Hindi)

**Topics:**

* Inequalities: AM, GM, HM
* Equivalence relations and Partial Order relations

**Resources:**

* **YouTube Videos:**
  + [Inequalities in Hindi](https://www.youtube.com/results?search_query=inequalities+hindi)
  + [Relations and Functions](https://www.youtube.com/results?search_query=relations+and+functions+hindi)
* **Articles:**
  + [Understanding Inequalities](https://www.sakshieducation.com/Articles/Inequalities-in-Mathematics.aspx)
  + [Relations and Their Types](https://www.maths-duniya.com/relations-in-mathematics-in-hindi)
* **Books:**
  + "Discrete Mathematics" by Kenneth H. Rosen (check for Hindi resources)

**Topics:**

* Systems of linear equations
* Row reduction and echelon forms
* Vector equations and linear independence

**Resources:**

* **YouTube Videos:**
  + [Linear Equations in Hindi](https://www.youtube.com/results?search_query=linear+equations+hindi)
  + [Matrix Theory Basics](https://www.youtube.com/results?search_query=matrix+theory+hindi)
* **Articles:**
  + [Linear Equations Overview](https://www.codingninjas.com/codestudio/library/linear-equations)
  + [Matrix and Its Applications](https://www.geeksforgeeks.org/matrix-in-hindi/)
* **Books:**
  + "Introduction to Linear Algebra" by Gilbert Strang (check Hindi translations)

**Topics:**

* Linear transformations and their matrix representations
* Eigenvalues and eigenvectors
* Cayley-Hamilton Theorem

**Resources:**

* **YouTube Videos:**
  + [Linear Transformations in Hindi](https://www.youtube.com/results?search_query=linear+transformations+hindi)
  + [Eigenvalues and Eigenvectors](https://www.youtube.com/results?search_query=eigenvalues+and+eigenvectors+hindi)
* **Articles:**
  + [Understanding Eigenvalues & Eigenvectors](https://www.mbauniverse.com/articles/eigenvalues-in-hindi)
  + [Linear Transformations Explained](https://www.khanacademy.org/math/linear-algebra)
* **Books:**
  + "Linear Algebra and Its Applications" by David C. Lay (available in Hindi edition)