

# Algorithm Comparison

Feature	HAPD Algorithm	Modified $\sin^2$ Algorithm
Number Types	All cubic numbers (rational and irrational)	All cubic numbers (rational and irrational)
Complex Conjugate Roots	Yes (projective space)	Yes (complex plane)
Approach	Non-subtractive	Subtractive
Mathematical Basis	Projective geometry	Complex analysis
Floor Function	Standard floor	Phase-preserving floor
Implementation Complexity	Moderate	Complex