⚡ Vedic Maths Magic Tricks ⚡

Chapter 8: Squares of Numbers Ending in 5

What is a Square? & The Vedic Sutra

Squaring a number means multiplying that number by itself. For example, 2 multiplied by 2 gives 4 ($2 \times 2 = 4$), so 4 is the square of 2. In Vedic Mathematics, we apply the Sutra ***Ekadhikena Purvena*** (*"By one more than the one before"*) to square any number ending in 5 instantly!

📐 Two-Part Architecture: LHS & RHS

LHS (Left Hand Side):
Computed by multiplying the digit(s) before 5 by its next consecutive digit:

LHS = N × (N + 1)

RHS (Right Hand Side):
Always fixed as 5^2 because the number ends in 5:

RHS = 5² = 25

📌 Eg-1: Find the square of 35 ((35)²)

LHS	RHS
(3 × 4)	5² (5 × 5)
12	25

∴ Answer = 1225

Multi-Digit Examples: Eg-2 & Eg-3

📌 Eg-2: Find the square of 95 ($(95)^2$)

LHS	RHS
(9×10)	5^2
90	25

∴ Answer = **9025**

📌 Eg-3: Find the square of 125 ($(125)^2$)

LHS	RHS
(12×13)	5^2
156	25

∴ $(125)^2$ = **15625**

💡 Working Note (W.N.): Quick Crosswise Calculation for 12 × 13

Using Vertically & Crosswise (1×1 layout):

- Step 1 (Units): 2 × 3 + 0 = **6**
- Step 2 (Cross): (1 × 3) + (2 × 1) = 3 + 2 = **5**
- Step 3 (Tens): 1 × 1 + 0 = **1**

➔ 12 × 13 = **156**

✏️ Chapter 8 Exercises & Complete Solutions

Find the square of the following:

#	Problem	LHS Working [N × (N + 1)]	RHS	Final Answer
1	**25^2**	2 × (2 + 1) = 2 × 3 = **6**	25	**625**
2	**85^2**	8 × (8 + 1) = 8 × 9 = **72**	25	**7225**
3	**15^2**	1 × (1 + 1) = 1 × 2 = **2**	25	**225**
4	**115^2**	11 × (11 + 1) = 11 × 12 = **132**	25	**13225**
5	**205^2**	20 × (20 + 1) = 20 × 21 = **420**	25	**42025**

🎓 Summary Key Takeaways

- **Universality:** Any integer ending in 5 can be squared in under 3 seconds.
- **Structure:** LHS is always $N \times (N+1)$ and RHS is strictly 25.
- **Speed Booster:** Combine with *Vertically & Crosswise* for 3-digit and 4-digit LHS calculations!