

The Vedic Speed Kit

Seven classical techniques that turn exam arithmetic into one-line answers — with worked steps, 28 practice problems, and the speed tables toppers know cold.

For IBPS · SBI · SSC · Railway quant.

Free, share it forward. Every question in this kit was generated and verified by the ComputePrep engine — the same one behind the free daily speed drill at **computeprep.com**.

Contents

Seven techniques, 28 practice problems numbered **1–28 straight through** — the answer key at the back uses the same numbers. Every technique page ends with a link to drill that one against a clock.

Vedic Squaring	Practice 1–4
Complementary Products	Practice 5–8
Difference of Squares	Practice 9–12
Nikhilam Multiplication	Practice 13–16
Crosswise Multiplication	Practice 17–20
Paravartya Division	Practice 21–24
Anurupyena Multiplication	Practice 25–28
The Speed Tables	Reference
Answer Key	All 28

Vedic Squaring

[↑ Contents](#)

Squares the exam loves: numbers ending in 5 (Ekadhikena — multiply the head by its successor, append 25) and numbers near a base like 100 (Yavadunam — slide by the deficit, append its square). Both turn a two-digit multiplication into one small step you can do while reading the next line.

WORKED EXAMPLE

$87^2 = ?$

1. 87 is 13 below 100 — Yavadunam: go the deficit again: $87 - 13 = 74$.
2. Append the deficit squared in 2 digits: $13^2 = 169$ — that overflows 2 digits, so CARRY: $74 \mid 169 \rightarrow 7569$.
3. Answer: 7569.

NOW YOU — UNDER 30 SECONDS EACH

1. $65^2 = ?$

4217 · 4925 · 4225 · 3625 · 4212

2. $45^2 = ?$

2525 · 2055 · 2038 · 2025 · 1625

3. $86^2 = ?$

7409 · 72196 · 7396 · 10196 · 7400

4. $92^2 = ?$

8464 · 8564 · 8400 · 8457 · 10064

Drill this against a real clock: computeprep.com/?drill=vedic_squaring

Complementary Products

[↑ Contents](#)

When two numbers share the same tens digit and their units digits add to 10 (like 43×47), the answer assembles itself: head times its successor, then the product of the units. Antyayordashake — spot the pattern and the multiplication is over before it starts.

WORKED EXAMPLE

$$46 \times 44 = ?$$

1. Units $6 + 4 = 10$ with the same lead 4 — Antyayordashake applies.
2. Left: $4 \times 5 = 20$. Right: $6 \times 4 = 24$ (always two digits).
3. $20 \mid 24 \rightarrow 2024$.
4. Answer: 2024.

NOW YOU — UNDER 30 SECONDS EACH

5. $72 \times 78 = ?$

4916 · 5616 · 5631 · 5623 · 5626

6. $73 \times 77 = ?$

5621 · 5633 · 5610 · 5631 · 4921

7. $87 \times 83 = ?$

7231 · 7221 · 7222 · 7210 · 6421

8. $82 \times 88 = ?$

7202 · 6416 · 7216 · 7209 · 7210

Drill this against a real clock: computeprep.com/?drill=complementary_products

Difference of Squares

[↑ Contents](#)

Any product of two numbers the same distance either side of a round midpoint (like 38×42) is the midpoint's square minus the distance's square. Sankalana-vyavakalanabhyam — one known square, one tiny square, one subtraction.

WORKED EXAMPLE

$$53 \times 57 = ?$$

1. 53 and 57 straddle 55 by 2 — Sankalana: $a \times b = m^2 - d^2$.
2. $55^2 - 2^2 = 3025 - 4 = 3021$.
3. Answer: 3021.

NOW YOU — UNDER 30 SECONDS EACH

9. $22 \times 32 = ?$

692 · 697 · 484 · 704 · 754

10. $52 \times 58 = ?$

3046 · 3016 · 3025 · 3034 · 2704

11. $41 \times 49 = ?$

1681 · 2009 · 2025 · 2041 · 1959

12. $39 \times 51 = ?$

2061 · 1989 · 1521 · 1939 · 2025

Drill this against a real clock: computeprep.com/?drill=difference_of_squares

Nikhilam Multiplication

[↑ Contents](#)

Multiplying two numbers near a base (98×93 , 104×107): work with their small deficits or surpluses instead of the numbers themselves. Cross-add for the head, multiply the deviations for the tail — and mind the carry, which is exactly the mistake the exam's wrong options are built from.

WORKED EXAMPLE

$94 \times 85 = ?$

1. Choose the base (nearest power of 10): 100.
2. Distance from base: 94 is 6 below 100, 85 is 15 below 100.
3. Cross-subtract: $94 - 15 = 79$ (same as $85 - 6$).
4. Multiply the distances: $6 \times 15 = 90$.
5. Base 100 has 2 zeros, so the right-hand part must occupy exactly 2 digits.
6. 90 fits, padded to 2 digits $\rightarrow 90$.
7. Left part: 79. Right part: 90.
8. Write them side by side: $79 \mid 90 = 7990$.

NOW YOU — UNDER 30 SECONDS EACH

13. $972 \times 962 = ?$

962972 · 9341064 · 935064 · 972962 · 1934000

14. $110 \times 108 = ?$

10910 · 11880 · 11108 · 80 · 21800

15. $996 \times 976 = ?$

96 · 972096 · 1096 · 97296 · 972000

16. $92 \times 91 = ?$

9192 · 8372 · 18300 · 9291 · 72

Drill this against a real clock: computeprep.com/?drill=nikhilam

Crosswise Multiplication

[↑ Contents](#)

Urdhva-Tiryagbhyam, the general-purpose one: any two-digit multiplication in a single left-to-right sweep — vertical, crosswise, vertical — with nothing written down but the answer. The $\times 11$ family is its warm-up case and a one-second exam win.

WORKED EXAMPLE

$$49 \times 28 = ?$$

1. Units: $9 \times 8 = 72$.
2. Cross: $4 \times 8 + 9 \times 2 = 50$; tens: $4 \times 2 = 8$ — stack with carries.
3. $800 + 500 + 72 = 1372$.
4. Answer: 1372.

NOW YOU — UNDER 30 SECONDS EACH

17. $48 \times 74 = ?$

2822 · 2992 · 3392 · 3552 · 3554

18. $79 \times 59 = ?$

4661 · 4666 · 3581 · 4211 · 4669

19. $15 \times 43 = ?$

647 · 645 · 445 · 435 · 657

20. $26 \times 88 = ?$

1648 · 2303 · 2294 · 2288 · 2298

Drill this against a real clock: computeprep.com/?drill=urdhva_multiplication

Paravartya Division

[↑ Contents](#)

Dividing by a number just above a clean base (11, 101) without long division: bring down the first digit, then chain each next digit minus the previous quotient digit leftward, and the quotient falls out complete. Paravartya Yojayet — the chain is built so no borrow ever appears, which long division can't give you under a clock.

WORKED EXAMPLE

3877 ÷ 11 — what is the QUOTIENT?

1. $3877 \div 11$ — Paravartya: $11 = 10 + 1$, so the flag digit is 1; negate it to -1 .
2. Bring down the first digit as-is: 3 (first quotient digit).
3. $8 + (-1 \times 3) = 5$ (next quotient digit).
4. $7 + (-1 \times 5) = 2$ (next quotient digit).
5. Last digit gives the remainder the same way: $7 + (-1 \times 2) = 5$.
6. Quotient 352, remainder 5 — check: $352 \times 11 + 5 = 3877$.
7. Answer: 352.

NOW YOU — UNDER 30 SECONDS EACH

21. $8804 \div 11$ — what is the QUOTIENT?

788 · 8004 · 866 · 800 · 760

22. $3427 \div 11$ — what is the QUOTIENT?

311 · 308 · 304 · 379 · 291

23. $2453 \div 11 = ?$

223 · 213 · 218 · 261 · 2230

24. $9917 \div 11$ — what is the QUOTIENT?

991 · 915 · 9016 · 901 · 989

Drill this against a real clock: computeprep.com/?drill=paravartya_division

Anurupyena Multiplication

[↑ Contents](#)

Multiplying two numbers that sit near a working base that isn't a power of ten (like 50, half of 100): cross-add the deviations for the left part, rescale by the base's ratio, then multiply the deviations for the right part. Anurupyena — the same one-line shortcut Nikhilam gives you at 100, extended to a base the exam doesn't hand you for free.

WORKED EXAMPLE

$$46 \times 42 = ?$$

1. Deviations from 50: $46 \rightarrow -4$, $42 \rightarrow -8$.
2. Cross-add for the raw left part: $46 - 8 = 38$.
3. Rescale for the working base: 50 is $100 \div 2$, so divide by 2: $38 \div 2 = 19$.
4. Right part — multiply the deviations: $(-4) \times (-8) = 32$, padded to two digits: 32.
5. Join them: $19 \mid 32 \rightarrow 1932$.
6. Answer: 1932.

NOW YOU — UNDER 30 SECONDS EACH

25. $46 \times 48 = ?$

2208 · 4408 · 2214 · 8808 · 2200

26. $52 \times 58 = ?$

12016 · 3000 · 6016 · 3025 · 3016

27. $56 \times 52 = ?$

2912 · 11612 · 2921 · 2924 · 5812

28. $48 \times 42 = ?$

2000 · 8016 · 2011 · 2016 · 4016

Drill this against a real clock: computeprep.com/?drill=anurupyena_multiplication

The Speed Tables

[↑ Contents](#)

Percentages and powers the paper assumes you know without computing. Read a row a day; the daily drills will make them stick.

FRACTION	PERCENT
1/2	50%
1/3	33.33%
2/3	66.67%
1/4	25%
3/4	75%
1/5	20%
2/5	40%
3/5	60%
4/5	80%
1/6	16.67%
5/6	83.33%
1/8	12.5%
3/8	37.5%
5/8	62.5%
7/8	87.5%
1/9	11.11%
1/11	9.09%
1/12	8.33%

N	N ²
11	121
12	144
13	169
14	196
15	225
16	256
17	289
18	324
19	361
20	400
21	441
22	484
23	529
24	576
25	625
26	676
27	729
28	784
29	841
30	900

CUBES

6 ³	7 ³	8 ³	9 ³	10 ³	11 ³	12 ³	13 ³	14 ³	15 ³
216	343	512	729	1000	1331	1728	2197	2744	3375

Answer Key

[↑ Contents](#)

Vedic Squaring: 1) 4225 2) 2025 3) 7396 4) 8464

Complementary Products: 5) 5616 6) 5621 7) 7221 8) 7216

Difference of Squares: 9) 704 10) 3016 11) 2009 12) 1989

Nikhilam Multiplication: 13) 935064 14) 11880 15) 972096 16) 8372

Crosswise Multiplication: 17) 3552 18) 4661 19) 645 20) 2288

Paravartya Division: 21) 800 22) 311 23) 223 24) 901

Anurupyena Multiplication: 25) 2208 26) 3016 27) 2912 28) 2016

Make it a reflex: one timed drill a day.

These techniques only pay off at exam speed, and speed only comes from a clock. ComputePrep serves a free timed drill every day across all seven vedic techniques plus 16 exam calculation types — with a leaderboard, a streak, and the full fast-method walkthrough after every round.

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