Mental Math Shortcuts

Master these tricks to solve problems faster in your head. Practice each one until it becomes automatic.

Multiply by 5

Divide by 2, then multiply by 10.

Example: 48 x 5 = 48 / 2 x 10 = 24 x 10 = 240

Multiply by 9

Multiply by 10, then subtract the original number.

Example: 37 x 9 = 37 x 10 - 37 = 370 - 37 = 333

Multiply by 11

For two-digit numbers: split the digits and put their sum in the middle.

Example: 36 x 11 = 3_(3+6)_6 = 396
If the middle sum is 10+, carry the 1: 75 x 11 = 7_(12)_5 = 825

Squaring Numbers Ending in 5

Take the tens digit (n), multiply n x (n+1), then append 25.

Example: 35 x 35 = (3 x 4) then 25 = 1225
Example: 85 x 85 = (8 x 9) then 25 = 7225

Percentage Tricks

10%: Divide by 10. Example: 10% of 450 = 45
5%: Find 10%, then halve it. 5% of 450 = 22.5
15%: 10% + 5%. 15% of 450 = 45 + 22.5 = 67.5
20%: 10% x 2. 20% of 450 = 45 x 2 = 90

Adding 9

Add 10, then subtract 1.

Example: 67 + 9 = 67 + 10 - 1 = 76

Doubles and Near-Doubles

For near-doubles, double one number, then adjust.

Example: 7 + 8 = 7 + 7 + 1 = 15
Example: 15 + 16 = 15 + 15 + 1 = 31

Compensation Method

Round to an easier number, then adjust.

Example: 49 x 6 = 50 x 6 - 6 = 300 - 6 = 294
Example: 198 + 45 = 200 + 45 - 2 = 243

The key to mental math is practice. Pick one trick per day and use it 10 times before moving to the next.