## EASY TRICKS TO DO MATH IN YOUR HEAD

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Here are some mental math strategies to make calculations faster and easier:
   1.
        BREAK NUMBERS INTO PARTS (PARTITIONING)
  - Example : (47 + 36 )
    - Split into tens and ones: ((40 + 30) + (7 + 6) = 70 + 13 = 83).
   2. ROUND AND ADJUST
  - Example : (198 + 47 )
    - Round (198) to (200), then subtract the adjustment: (200 + 47 = 247
- 2 = 245 ).
   3. DOUBLING AND HALVING
  - If multiplying two numbers, double one and halve the other to simplify.
    - Example : (16 times 25 )
     - Double (25 ) to (50 ) and halve (16 ) to (8 ): (8 times 50 =
400).
   4. USE NEARBY MULTIPLES
  - Example : (49 times 6 )
    - Use (50 times 6) and subtract one group of (6): (300 - 6 = 294).
   5. SQUARE NUMBERS EASILY
  - For numbers ending in 5 :
    - Example : ( 25^2 )
      - Multiply (2) by (3) (next integer) and add (25): (2 times 3
= 6, text{ so } 625 ).
     Near a base number :
    - Example : (51^2)
      - (50^2 + 2 \text{ times } 50 + 1 = 2500 + 100 + 1 = 2601).
   6. MULTIPLY BY 11
  - For two-digit numbers:
    - Example : (32 times 11 )
      - Add digits (3 + 2 = 5) and place it in the middle: (352).
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7. MULTIPLY BY 9
- Think of ( 9 ) as ( 10 - 1 ).
    - Example : ( 23 times 9 )
    - ( 23 times 10 - 23 = 230 - 23 = 207 ).
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8. DIVIDE BY 5
- Multiply by 2, then divide by 10.
- Example : ( 135 div 5 )
- ( 135 times 2 = 270 ), ( 270 div 10 = 27 ).
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9. ESTIMATIONWhen precision isn't critical, round numbers to make mental calculations simpler.

Example : (198 times 6)
 Approximate as (200 times 6 = 1200).

10. PRACTICE COMMON PRODUCTS - Memorize squares up to (  $15^2$  ), cubes up to (  $5^3$  ), and multiplication tables up to ( 12 times 12 ) for quicker recall.

By combining and practicing these techniques, you'll become faster and more accurate in mental math!