

Mental Math series is added by Hindu Samaj to improve our computational skills. This is useful for all ages. We will be adding more mental math techniques if community shows interest. Decision will be taken based on change in website traffic (website analytics)

Lesson Objective:

To be able to multiply the following within 5 seconds in your head (no calculator, no paper, no pencil)

$$98 \times 97$$

$$995 \times 993$$

$$9992 \times 9996$$

Example 1:

Let us start with two-digit numbers


$$98 \times 95$$

Step 1 – Find out how much away are they from 100

$$98 \quad -2 \text{ (98 is 2 less than 100)}$$

$$95 \quad -5 \text{ (95 is 5 less than 100)}$$


Step 2 – Add numbers diagonally (Pick any one diagonal of your choice).

$$\begin{array}{r} 98 \quad -2 \\ 95 \quad -5 \end{array}$$


93

93 (adding 98 and -5 will lead to 93)

Step 3 – Multiply following two numbers

$$\begin{array}{r} 98 \quad -2 \\ 95 \quad -5 \end{array}$$


93 **10**

Answer is 10

Step 4: **9310** is your answer

Let us try more problems:

Example 2:

92

X 93

Step 1: 92 -8

$$93 \quad -7$$

Step 2: 85 \rightarrow (92-7)

Step 3: 56

Answer is 8556

Example 3:

$$91$$

$$X 96$$

Step 1: 91 -9

$$96 \quad -4$$

Step 2: 87

Step 3: 36

Answer 8736

Example 4 (3 digit number):

$$995$$

$$X 992$$

Step 1: 995 -005 (3 digit number - find out
how much away it is
from 1000. Add zeroes

to make the difference a
3 digit number)

$$992 \quad -008$$

Step 2: 987 (Diagonal Addition)

Step 3: 040 (Multiplication. Make sure this is 3
digits long by adding zeroes)

Answer 987040

Example 5 (4 digit number):

$$9992$$

$$\times 9998$$

Step 1: 9992 -0008 (4 digit number - find out
how much away it is
from 10000. Add zeroes
to make the difference a
4 digit number)

$$9998 \quad -0002$$

Step 2: (Diagonal addition)

$$9990$$

Step 3: 0016 (Multiplication. Make sure this is 4
digits long by adding zeroes)

Answer 99900016