

Finding Square of a number

Method - 1 Given number is a two digit

eg:- $(38)^2$

Rule:

- i) Split the n-o in to the ten's & ones place
- ii) Square the ten's place number
- iii) Square the one's place number
- iv) double the product of tens & ones place n-o
- v) Add altogether.

Sol:-

i) $(30+8)^2$

ii) 900

iii) 64

iv) $240 \times 2 = 480$

v)

$$\begin{array}{r} 900 \\ 64 \\ 480 \\ \hline 1444 \end{array}$$

Eg:- $(66)^2 \rightarrow (60+6)$

$$\begin{array}{r} 3600 \\ 36 \\ \hline 720 \\ \hline 4356 \end{array}$$

Eg:- $(89)^2 \rightarrow (80+9)$

$$\begin{array}{r} 6400 \\ 81 \\ \hline 1440 \\ \hline 7921 \end{array}$$

Eg:- $(54)^2 \rightarrow (50+4)$

$$\begin{array}{r} 2500 \\ 16 \\ \hline 400 \\ \hline 2916 \end{array}$$

Eg:- $(86)^2 \rightarrow (80+6)$

$$\begin{array}{r} 6400 \\ 36 \\ \hline 960 \\ \hline 7396 \end{array}$$

Method 2: This will be applicable for the unit digit (or) one's place having the number 5

Eg:- 1) $(25)^2 \rightarrow 625$

$$\begin{array}{r} 25 \\ 25 \\ \hline 625 \end{array}$$

2) $(95)^2$

$$\begin{array}{r} 95 \\ 95 \\ \hline 9025 \end{array}$$

2) $(45)^2$

$$\begin{array}{r} 45 \\ 45 \\ \hline 2025 \end{array}$$

4) $(65)^2$

$$\begin{array}{r} 65 \\ 65 \\ \hline 4225 \end{array}$$

Method 3:- Finding the Square of the three digit number.

Rules:-

Note:- $(316)^2 \rightarrow 99856$
 $(317)^2 \rightarrow 100489$

Case i \rightarrow 1 - 50

Case ii \rightarrow 51 - 99

Eg:-

$$(223)^2 \rightarrow \begin{array}{r} \text{Ans } \otimes \\ \hline \times \times \times \times \times \end{array}$$

$$200 + 23 + 23 \rightarrow \begin{array}{r} 246 \\ \quad 2 \\ \hline 492 \end{array}$$

$$\begin{array}{r} 492 \\ \quad 529 \\ \hline 49729 \end{array}$$

$$\begin{array}{r} 23 \\ \quad 23 \\ \hline 529 \end{array}$$

Eg:-

$$(412)^2 \rightarrow \begin{array}{r} \text{Ans} \\ \hline \text{xxx xxx} \\ \hline \end{array}$$

digit

$$400 + 12 + 12 \rightarrow \begin{array}{r} 424 \\ \hline 4 \\ \hline 1696 \\ \hline \end{array}$$

$$\begin{array}{r} 1696 \\ 144 \\ \hline 169744 \\ \hline \end{array}$$

Ans -

$$(621)^2 \rightarrow \text{xxx xxx}$$

$$600 + 21 + 21 \rightarrow \begin{array}{r} 21 \\ 642 \\ \hline 6 \\ \hline 3852 \\ \hline \end{array}$$

$$\begin{array}{r} 3852 \\ 441 \\ \hline \end{array}$$

Ans - $\begin{array}{r} 385641 \\ \hline \end{array}$

$$\begin{array}{r} 63 \\ 63 \quad 3 \\ \hline 3969 \\ \hline \end{array}$$

$$\begin{array}{r} 21 \\ 21 \\ \hline 441 \\ \hline \end{array}$$

If the n.o is exceeds > 50 .

Eg:- 1) $(192)^2 \rightarrow$ ^{5 digit} xx xxx

$$\begin{array}{r} 200 - 8 - 8 \rightarrow 184 \\ \quad \quad \quad \quad \quad \quad \quad 2 \\ \hline \quad \quad \quad \quad \quad \quad 368 \\ \hline \end{array}$$

Ans: 36864

2) $(689)^2 \rightarrow$ ^{6 digit} xxx xxx

$$\begin{array}{r} 700 - 11 - 11 \rightarrow 678 \\ \quad \quad \quad \quad \quad \quad \quad 7 \\ \hline \quad \quad \quad \quad \quad \quad 4746 \\ \hline \end{array}$$

Ans:-

$$\begin{array}{r} 4746 \\ \quad \quad \quad 121 \\ \hline 474721 \\ \hline \end{array}$$