

Rule 25 - When one part of a multiplier is a factor of another part the following method may be used

1st Ex - 4576

$$\begin{array}{r} 549 \\ \times 41184 \\ \hline 247104 \\ \times 251722 \\ \hline \end{array} \quad \begin{array}{l} 9 \text{ is a factor of } 54. \\ = 9 \times 4576 \\ = 6 \times 41184 \text{ or } 54 \times 4576 \\ = 549 \times 4576 \end{array}$$

2nd Ex 3725

$$\begin{array}{r} 648 \\ \times 22350 \\ \hline 178800 \\ \times 2413800 \\ \hline \end{array} \quad \begin{array}{l} 6 \text{ is a factor of } 48. \\ = 6 \times 3725 \text{ (begin under 6)} \\ = 8 \times 22350 \text{ or } 48 \times 3725 \\ = 648 \text{ times } 3725. \end{array}$$

Always begin the partial product under the right hand figure of the multiplier. In the last ex. we might have taken 8 as a factor of 64.

Rule 26 - To Square any number under 100 add such a number as will make an easy multiplier subtract the same number for the other factor and to the product of these two numbers add the square of the number you added and subtracted.

1st Ex $97^2 = 100 \times 94 + 3^2 = 9400 + 9 = 9409$

We added 3 to 97 to get 100; subtracted 3 to get 94;

2nd Ex $36^2 = 40 \times 32 + 4^2 = 1280 + 16 = 1296$.

3rd " $49^2 = 50 \times 48 + 1^2 = 2400 + 1 = 2401$.

Note - The small figure ² placed above and to the right of any number means the number is to be squared Ex - $9^2 = 9 \times 9$.

$$\begin{array}{r} 8888889999999988888 \\ 5976438639472638479 \end{array}$$