

Square

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$$\text{We know about } (a+b)^2 = a^2 + 2ab + b^2$$

$$(a/b)^2 = a^2 / 2ab / b^2$$

$$\begin{aligned}\underline{\text{Ex.}} \quad (56)^2 &= (56)^2 \\ &= 5^2 / 2 \times 5 \times 6 / 6^2 \\ &= 25 / 60 / 36 \\ &= 3136\end{aligned}$$

$$\begin{aligned}\underline{\text{Ex.}} \quad (92)^2 &= (92)^2 = 81 / 36 / 04 \\ &= 8464\end{aligned}$$

$$\begin{aligned}\underline{\text{Ex.}} \quad (112)^2 &= (112)^2 \\ \text{I} \quad (112)^2 &= (11/2)^2 \\ &= 121 / 44 / 04 \\ &= 12544\end{aligned} \left. \begin{aligned} \text{II} \quad &= (1/\underline{12})^2 \\ &= 11^2 / 24 / \underline{144} \\ &= 12544 \end{aligned} \right\}$$

\Rightarrow If number is nearer than 100

Ex. $(96)^2$

• Here 96 is less than 100 by 4

— Find the square of 4

— subtract 4 from 96

$$(96)^2 = (96 - 4) \mid (4)^2$$

$$= 92 \mid 16$$

$$= 9216,,$$

Ex. $(85)^2 = (85 - 15) \mid (15)^2$

$$= 70 \overline{) 225}$$

$$= 7225,,$$

Ex. $(108)^2 = (108 + 8) \mid (8)^2$

$$= 116 \mid 64$$

$$= 11664,,$$

Ex. $(112)^2 = (112 + 12) \mid (12)^2$

$$\begin{aligned}\underline{\text{ex.}} \quad (112)^2 &= (112+12) / (12)^2 \\ &= 124 \overline{) 144} \\ &= 12544 //\end{aligned}$$

\Rightarrow If no. is nearer than 200

$$\begin{aligned}\underline{\text{ex.}} \quad (192)^2 &= (192-8) / (8)^2 \\ &= 184 \overline{) 64} \\ &\quad \times 2 \\ &= 368 / 64 = 36864\end{aligned}$$

$$\begin{aligned}\underline{\text{ex.}} \quad (145)^2 &= (145-15) / (15)^2 \\ &= 170 \overline{) 225} \\ &\quad \times 2 \\ &= 340 \overline{) 225} \\ &= 34225 //\end{aligned}$$

$\underline{\text{ex.}}$ What no. is nearer than 100.

$$\underline{\text{ex.}} \quad (998)^2 = (998-2) / (2)^2$$

$$= 996 / 004$$

$$= 996004 //$$

275 $(1012)^2 = (1012 + 12) / (12)^2$

$$= 1024 / 144$$

$$= 1024144 //$$