

# Speed Maths

CREATE U APTITUDE (in Telugu)

Speed Maths

$\begin{array}{r} 104 \\ \times 103 \\ \hline 312 \\ 000 \\ 104 \\ \hline 10712 \end{array}$	$\begin{array}{r} 104 \xrightarrow{+4} \\ 103 \xrightarrow{+3} \\ \hline 10712 \end{array}$	$\begin{array}{r} 128 \xrightarrow{+28} \\ \times 143 \xrightarrow{+43} \\ \hline 18404 \end{array}$
$\begin{array}{r} 107 \xrightarrow{+7} \\ \times 106 \xrightarrow{+6} \\ \hline 11342 \end{array}$	$\begin{array}{r} 108 \xrightarrow{+8} \\ \times 105 \xrightarrow{+5} \\ \hline 11340 \end{array}$	$\begin{array}{r} 128 \xrightarrow{+28} \\ \times 102 \xrightarrow{+2} \\ \hline 13056 \end{array}$
		$\begin{array}{r} 103 \xrightarrow{+3} \\ \times 102 \xrightarrow{+2} \\ \hline 10506 \end{array}$

CREATE U APTITUDE (in Telugu)

Speed Maths

$\begin{array}{r} 96 \\ \times 93 \\ \hline 288 \\ 864 \\ \hline 8928 \end{array}$	$\begin{array}{r} 96 \xrightarrow{-4} \\ \times 93 \xrightarrow{-7} \\ \hline 8928 \end{array}$
	$\begin{array}{r} 94 \xrightarrow{-6} \\ \times 89 \xrightarrow{-11} \\ \hline 8366 \end{array}$

# CREATE U APTITUDE (in Telugu)

## Speed Maths

$$\begin{array}{r} 108 \\ \times 97 \\ \hline 1756 \\ 972 \\ \hline 10476 \end{array}$$

$$\begin{array}{r} 108 \quad +8 \\ \times 97 \quad -3 \\ \hline 105 - 24 \times \end{array}$$

$$\begin{array}{r} 108 \quad +8 \\ \times 97 \quad -3 \\ \hline 10476 \end{array}$$

$$\begin{array}{r} 88 \quad -12 \\ \times 109 \quad +9 \\ \hline 9592 \end{array}$$

$$\begin{array}{r} \overset{100}{\curvearrowright} \\ 104 \quad +4 \\ \times 92 \quad -8 \\ \hline 9568 \\ \hline 102 \quad +2 \\ \times 97 \quad -3 \\ \hline 9894 \end{array}$$

## Close to Multiples of 100 Same

$$\begin{array}{r} 28 \\ 00 \\ 8 \\ \hline 228 \end{array}$$

$$\begin{array}{r} 204 \quad +4 \\ \times 207 \quad +7 \\ \hline 42228 \end{array}$$

$$\begin{array}{r} 211 \quad +11 \\ \times 206 \quad +6 \\ \hline 43466 \end{array}$$

$$\begin{array}{r} 212 \quad +12 \\ \times 209 \quad +9 \\ \hline 44308 \end{array}$$

$$\begin{array}{r} 212 \\ \times 209 \\ \hline 1908 \\ 000 \\ 424 \\ \hline 44308 \end{array}$$

$$\begin{array}{r} 215 \quad +15 \\ \times 208 \quad +8 \\ \hline 44720 \end{array}$$

$$\begin{array}{r}
 308 \begin{array}{l} +8 \\ \times 303 \end{array} \begin{array}{l} +3 \\ +3 \end{array} \\
 \hline
 93324 \\
 \hline
 413 \begin{array}{l} +13 \\ \times 402 \end{array} \begin{array}{l} +2 \\ +2 \end{array} \\
 \hline
 166026 \\
 \hline
 \end{array}$$

Close to Multiples of 100  
Same

$  \begin{array}{r}  404 \begin{array}{l} +4 \\ \times 402 \end{array} \begin{array}{l} +2 \\ +2 \end{array} \\  \hline  162408 \\  \hline  \end{array}  $	$  \begin{array}{r}  198 \begin{array}{l} +2 \\ \times 194 \end{array} \begin{array}{l} -6 \\ -6 \end{array} \\  \hline  38412 \\  \hline  \end{array}  $	$  \begin{array}{r}  297 \begin{array}{l} -3 \\ \times 293 \end{array} \begin{array}{l} -7 \\ -7 \end{array} \\  \hline  87021 \\  \hline  \end{array}  $
	$  \begin{array}{r}  396 \begin{array}{l} -4 \\ \times 397 \end{array} \begin{array}{l} -3 \\ -3 \end{array} \\  \hline  157212 \\  \hline  \end{array}  $	$  \begin{array}{r}  396 \\  \times 397 \\  \hline  12772 \\  3564 \\  1188 \\  \hline  157212 \\  \hline  \end{array}  $

Close to Multiples of 100  
Same

$\begin{array}{r} 308 + 8 \\ 297 - 3 \\ \hline 91476 \end{array}$	$\begin{array}{r} 207 \xrightarrow{+7} 214 \\ \times 196 \xrightarrow{-4} 192 \\ \hline 40572 \end{array}$	$\begin{array}{r} 211 \xrightarrow{+11} 222 \\ \times 198 \xrightarrow{-2} 196 \\ \hline 41778 \end{array}$ $\begin{array}{r} 312 \xrightarrow{+12} 324 \\ \times 291 \xrightarrow{-9} 282 \\ \hline 90792 \end{array}$ <div style="margin-left: 400px;"> <math display="block">\begin{array}{r} 200 \\ -108 \\ \hline 909 \\ -2 \end{array}</math> </div>
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CREATED ATTITUDE (in English)  
Press Esc to exit full screen

$\begin{array}{r} 18 \\ \times 14 \\ \hline 252 \end{array}$	$\begin{array}{r} 17 \\ \times 13 \\ \hline 221 \end{array}$	$\begin{array}{r} 17 + 3 = 200 \\ 7 \times 3 = 21 \\ \hline 221 \end{array}$	$\begin{array}{r} 19 \\ \times 17 \\ \hline 323 \end{array}$
$\begin{array}{r} 17 \\ \times 12 \\ \hline 204 \end{array}$	$\begin{array}{r} 16 \\ \times 14 \\ \hline 224 \end{array}$	$19 \times 16$	$\begin{array}{r} 19 + 6 = 250 \\ 9 \times 6 = 54 \\ \hline 304 \end{array}$
	$\begin{array}{r} 16 \\ \times 13 \\ \hline 208 \end{array}$	$\begin{array}{r} 18 \\ \times 16 \\ \hline 288 \end{array}$	$\begin{array}{r} 18 + 6 = 240 \\ 8 \times 6 = 48 \\ \hline 342 \end{array}$

$$\begin{array}{r} 1 \text{ (8)} \\ \times \text{ (6)} \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ 48 \\ \hline 108 \end{array}$$

### Special Multiplication

$$\begin{array}{r} 34 \\ \times 36 \\ \hline 1224 \end{array}$$

$$\begin{array}{r} 62 \\ \times 68 \\ \hline 4216 \end{array}$$

$$\begin{array}{r} 79 \\ \times 71 \\ \hline 5609 \end{array}$$

$$\begin{array}{r} \boxed{12} \boxed{3} \\ \times \boxed{12} \boxed{7} \\ \hline 15621 \end{array}$$

$$\begin{array}{r} 13 \\ \times 12 \\ \hline 156 \end{array}$$

CREATEU APTITUDE (in Telugu)

Squares (125) → 25 By Heart

$$\begin{aligned} ① 5^2 &= 25 \\ 25^2 &= 625 \\ 35^2 &= 1225 \\ 45^2 &= 2025 \\ 55^2 &= 3025 \\ 65^2 &= 4225 \\ 75^2 &= 5625 \end{aligned}$$

Squares (125) → 25 By Heart

Diagram illustrating the calculation of  $43^2$  using the square of 25 and the difference from 50:

$43^2 = (25 - 7)^2 = 25^2 - 2 \times 25 \times 7 + 7^2 = 625 - 350 + 49 = 275$

The diagram shows a tree structure starting from 50, branching into 25 and 7, and then further into 25 and 7, leading to the calculation of  $43^2$ .

Calculation steps shown:

$$\begin{array}{r} 26 - 124 \\ \hline \end{array}$$

Identify

Close to 50

Close to 100



$$\begin{aligned}
 54^2 &\rightarrow 2916 \\
 57^2 &\rightarrow 3249 \\
 46^2 &\rightarrow 2116 \\
 52^2 &\rightarrow 2704 \\
 49^2 &\rightarrow 2401 \\
 59^2 &\rightarrow 3481
 \end{aligned}$$

Squares (125)  $\rightarrow$  (25) By Heart

$\begin{array}{r} \textcircled{50} \\ | \\ 62 \end{array} \rightarrow \begin{array}{r} \textcircled{25+12} \quad \textcircled{+1} \\ \hline \textcircled{38} \quad 44 \end{array}$

$67^2 = \begin{array}{r} \hline 4489 \\ \hline \end{array} \quad 2$

$72^2 \rightarrow \begin{array}{r} \hline 4489 \\ \hline 5184 \\ \hline \end{array} \quad 4$

6-  
 9-  
 16-  
 25-  
 36-  
 49-  
 64-  
 81-  
 100-

$$38^2 \rightarrow \underline{\underline{1444}}$$

$$37^2 \rightarrow \underline{\underline{1369}}$$

Squares (125)  $\rightarrow$  (25) By Heart

$\begin{array}{r} 94^2 - 6 \\ \hline 8836 \end{array}$ $\begin{array}{r} 96^2 - 4 \\ \hline 9216 \end{array}$	$\begin{array}{r} 107^2 + 7 \\ \hline 11449 \end{array}$
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Squares (125)  $\rightarrow$  (25) By Heart

$$\begin{array}{c} 112^2 \\ + 12 \end{array} \rightarrow \underline{\underline{12544}}$$

$$\begin{array}{c} 88^2 \\ - 12 \end{array} \rightarrow \boxed{7744}$$

xx yy

only sum

$$\underline{\underline{xxyy}}$$



<u>Cubes</u>	
$1^3 - 1$	$6^3 - 216$
$2^3 - 8$	$7^3 - 343$
$3^3 - 27$	$8^3 - 512$
$4^3 - 64$	$9^3 - 729$
$5^3 - 125$	$10^3 - 1000$
$11^3 - 1331$	
$12^3 - 1728$	
$13^3 - 2197$	
$14^3 - 2744$	
$15^3 - 3375$	

<u>Cube Roots</u>	
$1^3 - 1$	$6^3 - 6$
$2^3 - 8$	$7^3 - 3$
$3^3 - 7$	$8^3 - 2$
$4^3 - 4$	$9^3 - 9$
$5^3 - 5$	$0^3 - 0$
$\sqrt[3]{97336} = 46$	
$\sqrt[3]{29391} = 31$	
$\sqrt[3]{195112} = 58$	

## CREATEU APTITUDE (In Telugu)

$$\begin{array}{ll} 1^2 - 1 & 9^2 - 81 \\ 2^2 - 4 & 8^2 - 64 \\ 3^2 - 9 & 7^2 - 49 \\ 4^2 - 16 & 6^2 - 36 \\ 5^2 - 25 & 0^2 - 0 \end{array}$$

$$\sqrt{7549} = 87 \text{ or } 87 \checkmark$$

$\begin{array}{cc} 8^2 & 9^2 \\ 64 & 81 \end{array}$

$$\sqrt{15129} = 123 \text{ (or) } 123 \checkmark$$

$\begin{array}{cc} 12^2 & 13^2 \\ 144 & 169 \end{array}$

$$\sqrt{28224} = 168 \text{ (or) } 168 \checkmark$$

$\begin{array}{cc} 16^2 & 17^2 \\ 256 & 289 \end{array}$

## CREATEU APTITUDE (In Telugu)

### Fractions

$$\begin{array}{l} \frac{1}{2} = 50\% \\ \frac{1}{3} = 33.33\% \\ \frac{2}{3} = 66.66\% \\ \frac{1}{4} = 25\% \\ \frac{3}{4} = 75\% \\ \frac{1}{5} = 20\% \\ \frac{2}{5} = 40\% \\ \frac{3}{5} = 60\% \\ \frac{4}{5} = 80\% \end{array}$$

$$\begin{array}{l} \frac{1}{6} = 16.66\% \\ \frac{5}{6} = 83.33\% \\ \frac{1}{7} = 14.28\% \\ \frac{2}{7} = 28.57\% \\ \frac{3}{7} = 42.85\% \\ \frac{4}{7} = 57.14\% \\ \frac{5}{7} = 71.42\% \\ \frac{6}{7} = 85.71\% \end{array}$$

$$\begin{array}{l} \frac{1}{8} = 12.5\% \\ \frac{3}{8} = 37.5\% \\ \frac{5}{8} = 62.5\% \\ \frac{7}{8} = 87.5\% \\ \frac{1}{9} = 11.11\% \\ \frac{2}{9} = 22.22\% \\ \frac{3}{9} = 33.33\% \\ \frac{4}{9} = 44.44\% \end{array}$$

$$\begin{array}{l} \frac{1}{12} = 8.33\% \\ \frac{5}{12} = 41.66\% \\ \frac{7}{12} = 58.33\% \\ \frac{11}{12} = 91.66\% \\ \frac{5}{9} = 55.55\% \\ \frac{6}{9} = 66.66\% \\ \frac{7}{9} = 77.77\% \\ \frac{8}{9} = 88.88\% \end{array}$$

$$\begin{array}{l} \frac{1}{11} = 9.09\% \\ \frac{2}{11} = 18.18\% \\ \frac{3}{11} = 27.27\% \\ \frac{4}{11} = 36.36\% \\ \frac{5}{11} = 45.45\% \\ \frac{6}{11} = 54.54\% \\ \frac{7}{11} = 63.63\% \\ \frac{8}{11} = 72.72\% \\ \frac{9}{11} = 81.81\% \\ \frac{10}{11} = 90.90\% \end{array}$$

$$\begin{array}{l} \frac{1}{10} = 10\% \\ \frac{2}{10} = 20\% \\ \frac{3}{10} = 30\% \\ \frac{4}{10} = 40\% \\ \frac{5}{10} = 50\% \\ \frac{6}{10} = 60\% \\ \frac{7}{10} = 70\% \\ \frac{8}{10} = 80\% \\ \frac{9}{10} = 90\% \\ \frac{10}{10} = 100\% \end{array}$$