

vide the 469, omitting the last figure, that is, divide the 46 the 6, and we obtain 7. Annex the 7 to the 3 before obtained, and to the divisor 6; then multiplying the 67 by the 7 we obtain 469, which being subtracted from the 469 before formed, leaves no remainder; therefore 37 is the square root of 1369.

Ex. 2. Find the square root of 282475249.

$$\begin{array}{r}
 1 \\
 282475249 \quad (16807 \\
 \hline
 2 \times 1 = 2 \quad 26 \overline{) 182} \quad 18 + 2 = 9, \text{ but } 9 \text{ will be found too} \\
 \hline
 2 \times 16 = 32 \quad 328 \overline{) 2647} \quad \text{large, so also } 8 \text{ or } 7; \therefore \text{ try } 6. \\
 \hline
 2 \times 168 = 336 \quad 33607 \overline{) 235249} \quad 264 + 32 = 8 \\
 \hline
 \quad \quad \quad 235249 \quad 336 \text{ is greater than } 235; \therefore \text{ put} \\
 \quad \quad \quad 235249 \quad 0 \text{ after the } 8 \text{ in the quotient,} \\
 \quad \quad \quad \quad \quad \quad \text{and the } 6 \text{ in the divisor, bring}
 \end{array}$$

down the next period. Then $23524 \div 3360 = 7$.

Ex. 3. Find the square root of 7.929856.

$$\begin{array}{r}
 4 \\
 7.929856 \quad (2.816 \\
 \hline
 48 \overline{) 392} \quad \text{Place the first dot over the } 7, \text{ the units' place of whole numbers, and then over every second figure to the right.} \\
 \hline
 561 \overline{) 898} \\
 \hline
 5626 \overline{) 33756} \\
 \hline
 \quad \quad 33756
 \end{array}$$

There is 1 dot over the integral part, and 3 dots over the dec. part, $\therefore$ the root is 2.816.

Ex. 4. Find the square root of .001 to 3 places of dec. l.

$$\begin{array}{r}
 9 \\
 .001000 \quad (.031 \\
 \hline
 \{2+8=6\} \quad 61 \overline{) 100} \quad \text{We affix 3 cyphers, in order to have} \\
 \hline
 \quad \quad \quad 61 \quad 3 \text{ periods; and } \therefore 3 \text{ dec. places in} \\
 \hline
 \quad \quad \quad 39 \quad \text{root; since there is no number in} \\
 \quad \quad \quad \quad \quad \text{the units' place, the first dot will be} \\
 \quad \quad \quad \quad \quad \text{over the second cypher from the}
 \end{array}$$

units' place, and since first period is .00 we place 0 as the first figure in the root.

Ex. 5. Find the square root of $\frac{529}{2401}$.

$$\begin{array}{r}
 529 \quad (23 \\
 4 \\
 43 \overline{) 129} \\
 \hline
 \quad \quad 129
 \end{array}
 \qquad
 \begin{array}{r}
 2401 \quad (49 \\
 16 \\
 89 \overline{) 801} \\
 \hline
 \quad \quad 801
 \end{array}
 \quad \therefore \text{ sq. root} = \frac{23}{49}.$$