

EXTRACTION OF THE SQUARE ROOT.

RULE.

1. Distinguish the given number into periods of two figures each, by putting a point over the place of units, another over the place of hundreds, and so on, which points shew the number of figures the root will consist of.

2. Find the greatest square number in the first, or left hand period, place the root of it at the right hand of the given number, (after the manner of a quotient in division) for the first figure of the root, and the square number under the period, and subtract it therefrom, and to the remainder bring down the next period for a dividend.

3. Place the double of the root, already found, on the left hand of the dividend for a divisor.

4. Seek how often the divisor is contained in the dividend, (except the right hand figure) and place the answer in the root for the second figure of it, and likewise on the right hand of the divisor: Multiply the divisor, with the figure last annexed, by the figure last placed in the root, and subtract the product from the dividend: To the remainder join the next period for a new dividend.

5. Double the figures already found in the root, for a new divisor, (or bring down your last divisor for a new one, doubling the right hand figure of it) and from these find the next figure in the root as last directed; and continue the operation in the same manner till you have brought down all the periods.

NOTE 1. If when the given power is pointed off as the power requires, the left hand period should be deficient, it must nevertheless stand as the first period.

NOTE 2. If there be decimals in the given number, it must be pointed both ways from the place of units: If when there are integers, the first period in the decimals be deficient it may be completed by annexing so many cyphers as the power requires: And the root must be made to consist of so many whole numbers and decimals as there are periods belonging to each; and when the periods belonging to the given number are exhausted, the operation may be continued at pleasure by annexing cyphers.