

1. How many places are there in the square root of an integer expressed by one figure? by two figures? by three figures? by four figures?
2. What is one of the two equal factors of 81? of 121? of 256? of .01? of .0016? of 1.44?
3. What is the square root of 196? of 289? of 361? of 324? of 2.89? of 3.61?
4. What is the square of the smallest number of two figures? of the largest number of two figures? of the smallest number of three figures? of the largest number of three figures?
5. Can you tell from answers of the last questions how the number of figures in the square root of a given power may be determined?
6. How many figures in the square root of 625? of 6400? of 2116? of 9801? of 998,001? of 1,102,500?
7. What orders of numbers in the square root of 576? of 3969?
8. What is the greatest square that can be found in 120? in 300? in 400? in 270?
9. Extract the square root of 3600; of 6400; of 8100.
10. If the square root consists of tens + units, what must the power consist of? From this answer can you derive the expression $tens^2 + (2 \text{ tens} + \text{units}) \times \text{units}$?
11. By the aid of the formula, extract the square root of 576. The root of this power must consist of how many figures? Show how you can find the square of tens + units. The greatest square of tens found in 576 is what? Subtracting and what remains? This is equal to what? How can we find the units figure? What may be the trial divisor? The units may be what? What is the complete divisor? By multiplying as indicated, what do we find? What, then, is the square root of 576?

$$t^2 + (2t + u) \times u = 576 \quad \begin{array}{r} t + u \\ 2 \quad 4 \end{array}$$

$$t^2 = 400$$

$$2t = 40 \quad 176 = (2t + u) \times u$$

$$u = 4$$

$$2t + u = 44 \quad 176 = (2t + u) \times u$$