

Squares and Square Roots

Find the square root of the following by means of factors

- Find the square root of the following by means of factors
 - 529
 - 298116
- Find the smallest number by which 252 must be multiplied to get a perfect square. Also, find the square root of the perfect square so obtained.
- Find the smallest number by which 2925 must be divided to get a perfect square. Also, find the square root of the perfect square so obtained.
- Find the least square number, exactly divisible by each one of the numbers 6, 9, 15 and 20.
- Find the least square number exactly divisible by each one of the numbers 8, 12, 15, 20.

Find the square root of:

- 9126441
- 63409369
- Find the least number that must be subtracted from 7581 to obtain a perfect square. Find the perfect square and its square root.
- Find the least number that must be added to 506900 to make it a perfect square. Find its perfect square and its square root.
- Find the least number of 4 digits that is a perfect square.
- The area of a square field is 60025 m². A man cycles around its boundary at 18 km per hour. In how much time will he return at the starting point?
- The sides of a rectangular field are 80 m and 18 m respectively. Find the length of its diagonal.

Find the square root of

- 10.0469
- 0.00038809

Find the value of the following up to three places of decimal:

- $\sqrt{0.019}$
- A decimal fraction is multiplied by itself to give the product 0.007569. Find the decimal fraction.
- The area of a square playground is 291.0436 square meters. Find the length of each side of the playground.

Find the square root of:

- $25\frac{544}{729}$
- $21\frac{2797}{3364}$
- $3\frac{334}{3025}$

22. $\sqrt{\frac{7}{8}}$

23. $\sqrt{2\frac{2}{5}}$

24. $\sqrt{2\frac{11}{18}}$

25. Find the value of $\sqrt{103.0225}$ and hence write down the square root of

(i) 10302.25 (ii) 1.030225

26. Evaluate:

(i) $\sqrt{72} \times \sqrt{338}$ (ii) $\sqrt{147} \times \sqrt{243}$ (iii) $\sqrt{45} \times \sqrt{20}$

27. The area of a square field is $80\frac{244}{729}$ square meters. Find the length of each side of the field.

Answers

1. 23
2. 546
3. 7, 42
4. 13, 15
5. 900
6. 3600

7. 3021
8. 7963
9. 12, 7569, 87
10. 44, 506944, 712
11. 1024
12. 3 min 16 sec
13. 82 m
14. 3.17
15. 0.0197
16. 0.138
17. 0.087
18. 17.06 m

19. $5\frac{2}{27}$
20. $4\frac{39}{58}$

21. $1\frac{42}{85}$
22. 0.935
23. 1.549
24. 1.615
25. 10.15 (i) 101.5 (ii) 1.015
26. 156, 189, 30

27. $8\frac{26}{27}$ m