

Ch 6

SQUARES AND SQUARE ROOTS

1. Express 81 as the sum of consecutive odd numbers.
2. Find the Pythagorean triplet whose one member is
 - (a) 10 (Ans: 10, 24, 26)
 - (b) 15 (Ans: 8, 15, 17)
 - (c) 50 (Ans: 14, 48, 50)
3. How many numbers lie between the squares of
 - (a) 20 and 21 (Ans: 40)
 - (b) 20 and 30 (Ans: 499)
4. Find the square of 83 without actual multiplication. (Ans: 6889)
5. Find the square root of 125 using "Repeated Subtraction". (Ans: 15)
6. Find the square root of 46656 by Prime Factorisation method. (Ans: 216)
7. Find the square root of 126736 by Division method. (Ans: 356)
8. Find the least number by which 2888 should be multiplied to obtain a perfect square. Also, find the square root of the number so obtained. (Ans: 2; $\sqrt{5776} = 76$)
9. Find the least number by which 5324 should be divided to obtain a perfect square. Also, find the square root of the number so obtained. (Ans: 11; $\sqrt{484} = 22$)
10. Find the least number that should be added to 38576 to get a perfect square. Also, find the square root of the number so obtained. (Ans: 233; $\sqrt{38809} = 176$)
11. Find the least number that should be subtracted from 883606 to get a perfect square. Also, find the square root of the number obtained. (Ans: 6; $\sqrt{883600} = 940$)
12. Find the square root of each of the following:

(a) 126.7876 (Ans: 11.26)

(b) 0.000361 (Ans: 0.019)

13. Find the value in each of the following:

(a) $\sqrt{4096} + \sqrt{1296}$ (Ans: 100)

(b) $\sqrt{1.44} - \sqrt{0.36}$ (Ans: 0.3)

14. Find the square root of the following correct to 2 decimal places:

(a) 2 (Ans: 1.41)

(b) 5 (Ans: 2.23)

(c) 128.56 (Ans: 11.33)

15. Find the smallest 4-digit number which is a perfect square. (Ans: 1024; $\sqrt{1024} = 32$)

16. Find the greatest 5-digit number which is a perfect square. (Ans: 99856; $\sqrt{99856} = 316$)

17. Find the perimeter of a square field whose area is 60025 m². (Ans: 980 m)

18. Find the perimeter of a rectangle whose length is 40 cm and diagonal of length 41 cm. (Ans: 98 cm)

19. Find the smallest square number which is exactly divisible by 8, 12, 15 and 20. (Ans: 3600)

20. Evaluate:

(a) $\sqrt{\frac{2025}{2601}}$ (Ans: $\frac{45}{51}$)

(b) $\sqrt{4225 \times 4489}$ (Ans: 4355)