MATHEMATICS
Unit-1 Squares and square roots
Worksheet-1(Basic)

I) Multiple choice questions (1 mark)

1. The value of $\sqrt{144} + \sqrt{1.44}$ is ?

    a. 24   b. 13.2   c. 1.32   d. none of these

2. Which of the following triplet is a Pythagorean Triplet:

    a. (4,5,6) b. (11,60,61)   c. (10,8,6)   d. both b and c

3. How many non square numbers are there in between $n^2 \; and \; (n+1)^2$

    a. 2n   b. 4n   c. 3n   d. 2n+1

4. The Simplified form of $\frac{3}{\sqrt{0.09}}$ is _____.

    a. 30   b. 3   c. 1   d. none of these

5. Evaluate $\sqrt{5^2 + 12^2}$

    a. 169   b. 13   c. 289   d. none of these

II) Short answer Questions type I (2 mark)

6. $\frac{2707}{\sqrt{x}}$ = 27.07, find x.

7. If $\sqrt{15625}$=125, then find the value of $\sqrt{156.25} + \sqrt{1.5625}$

8. Find the square root of 14641 by Prime Factorisation method.

9. Find the square root of 144 by repeated subtraction method

10. Is 2352 a perfect square? If not, find the smallest multiple of 2352 which is a perfect
    square. Find the square root of the new number.

III) Short answer Questions type II (3 mark)

11. One of the members of the Pythagorean Triplet is given below. Find the other numbers .

    a) (6,----,-----) b.(9,----,---) c.(-----,8,----) d. (-------, 24,------)

12. Find the least number which should be subtracted from 180 to make it a perfect square.

13. Find the value of $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{169}}}}$

14. Area of a square plot is 2304 m². Find the side of the square plot.

15. Find the $\sqrt{1734489}$ by long division method

IV)   Long answer type questions (4 mark)

16. Find the square root of 5 correct to three places of decimals.

17. The length of a rectangle is 3 times its breadth. Its area is 972 sq. meter. Find the
     perimeter of the rectangle.

18. A rectangle ABCD has AB=12 cm and BC=6cm.Find the length of its diagonals correct
     to 2 decimal places.

19. Find the greatest 4 digit number which is a perfect square.

20. Find the square root of 90 by estimation method.

I) Multiple choice questions   (1 mark)

1. Find the number of non-square numbers lying between 40^2 and 41^2.

    a) 80   b)40   c)30   d)84

2. If m ,n ,p are natural numbers such that(m ,n ,p) forms a Pythagorean triplet if ?

    a)$m^2+n^2=p^2$ b) $m^2+n^2<p^2$ c) $m^2+n^2>p^2$ d) $m^2+n^2\neq p$

3. The square of an even number is always_____.

    a)even   b)odd   c)may be even or odd   d)none

4. The square root of 0.09+ 2 x 0.21 +0.49 is

    a) $\sqrt{0.09}+\sqrt{0.49}$ b) $2\sqrt{0.21}$ c) 1   d)0.58

5. The digit in the unit's place in the square root of 15876 is

    a) 8   b)6   c)4   d)2

II) Short answer Questions type I (2 mark)

6. In an auditorium, the number of rows is equal to the number of chairs in each row. If the capacity of the auditorium is 2025, find the number of chairs in each row.

7. Find the smallest number by which 9408 must be divided so that the quotient is a perfect square.

8.   Find the value of $\frac{\sqrt{243}}{\sqrt{363}},\sqrt{\frac{441}{961}}$.

9.   Find the value of $\sqrt{45796}$ and hence find the quotient of $\sqrt{4.5796}\div\sqrt{457.96}$

10. Write a Pythagorean triplet if the smallest number is 9.

III) Short answer Questions type II(3 mark)

11. Find the square root of $6\frac{1}{3}$ up to three places of decimals.

12. An equilateral triangle ABC has a side of length 4cm.Find its height.

13. Find the square root of 147.1369 by long division

14. Find the value of $\frac{104\ x\ 104-96\ x\ 96}{104\ x\ 104+96\ x\ 96-2\ x\ 104\ x\ 96}$

15. What least number must be added to 7344 to make it a perfect square?

IV) Long Answer type questions (4 marks)

16. Find the smallest number of 6-digit which is a perfect square.

17. The area of square field is 49284m^2.Find the cost of fencing the field at Rs 15 per metre.

18. In a school, all children were made to stand in square formation. Out of 3050 children,25 were left after forming the square. How many children are there in each row?

19. The Cost of levelling a square lawn at rupees 15 per square meter is 19,935.Find the cost of fencing the lawn at 22 per meter.

20. If $\sqrt{2}$ =1.414 , $\sqrt{5}$ =2.236 and $\sqrt{3}$ =1.732 ,find the value of $\sqrt{\frac{125}{144}}$

MATHEMATICS
Unit-1 Squares and square roots

HOTS

1. $\sqrt{0.04 \; X \; 0.4 \; X \; a} = 0.004 \times 0.4 \times \sqrt{b}$, then find the value of $\frac{a}{b}$

2. $If \; 3\sqrt{5} + \sqrt{125} = 17.88$, then find the value of $\sqrt{80} + 6\sqrt{5}$.

3. If 3a=4b=6c and a+b+c =$27\sqrt{29}$ then find the value of $\sqrt{a^2 + b^2 + c^2}$.

4. If $\sqrt{(x-1)(y+2)}$ =7 , x and y being positive whole numbers,then find the value of x and y .

5. Each member of a picnic party contributed twice as many rupees as the total number of members and the total collection was rupees 3042.Find the number of members present in the party.

6. The area of a square field is 60025 m². A man cycles along its boundary at 18km/hr. In how much time will he return at the starting point?

7. The length of a rectangle is 3 times its breadth. Its area is 972 sq. meter. Find the perimeter of the rectangle.

8. The product of two numbers is 1575 and their quotient is 9/7. Find the numbers.