GAIL DAV PUBLIC SCHOOL
GAIL GAON, DIBIYAPUR
Worksheet
Session 2026-27
CLASS VIII
SQUARE AND SQUARE ROOT
CUBE AND CUBE ROOT

Q. No	
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? b. (4,5,6) b. (11,60,61) c. (10,8,6) d. both b and c
3	Find the square root of 14641 by Prime Factorization method.
4	Find the square root of 144 by repeated subtraction method
5	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.
6	Area of a square plot is 2304 m^2. Find the side of the square plot.
7	Find the square root of 5 correct to three places of decimals.
8	The length of a rectangle is 3 times its breadth. Its area is 972 sq. meter. Find the perimeter of the rectangle
9	Find the square root of 5 correct to three places of decimals Find the greatest 4-digit number which is a perfect square.
10	Find the square root of 90 by estimation method.
11	Find the $\sqrt{1734489}$ by long division method
12	Find the smallest number by which 8788 be divided so that quotient is a perfect cube. Also, find the cube root of the quotient
13	Volume of a cuboid box is 13.824 cubic metres. Find the length of each side.
14	Divide 26244 by the smallest number so that the quotient is a perfect cube. Also, find the cube root of the quotient.
15	By what least number 4320 be multiplied to obtain a number which is a perfect cube?
16	By which smallest number must 5400 be multiplied to make it a perfect cube?
17	Find the smallest number by which 16384 be divided so that the quotient may be a perfect cube.
18	Is 4096 a perfect cube? If yes, then what is the number whose cube root is 4096?

19	Find the smallest number by which 375 must be multiplied to obtain a perfect cube.
20	How many sq. meters of cardboard will be needed to make a cube of volume 216 m^3
21	Three numbers are to one another as 2:3:4. The sum of their cubes is 33957. Find the numbers.
22	**Assertion – Reason** Choose the correct option: A. Both Assertion and Reason are true, and Reason is the correct explanation B. Both Assertion and Reason are true, but Reason is not the correct explanation C. Assertion is true, Reason is false D. Assertion is false, Reason is true **1.Assertion:** 256 is a perfect square. **Reason:** 16 × 16 = 256 **2.Assertion:** The square of any odd number is odd. **Reason:** Product of two odd numbers is always odd. **3.Assertion:** 343 is a perfect cube. **Reason:** 7 × 7 × 7 = 343 **4.Assertion:** Square root of 81 is 9. **Reason:** $9^2 = 81$ **5.Assertion:** Cube of an even number is always even. **Reason:** Even × Even × Even = Even
23	A square playground has an area of 2500 m^2. a) Find the length of one side. b) If fencing costs ₹15 per meter, find total cost.
24	Find the square root of 1764 using long division method.
25	Find the least number which must be subtracted from 500 to make it a perfect square.
26	A cube has volume 4913 cm^3. Find the side length.
27	A cube-shaped box has a volume of 2197 cm^3. a) Find the length of each side. b) Find total surface area.

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CH-7. ALGEBRAIC IDENTITIES

1 Mark Questions

1. Find the value of: $x^2 - 1/5$ at x= -1.
2. What is the value of $x^2 + y^2 - 10$ at x = 0 and y = 0?
3. Find the product of 9a, 4ab and -2a.
4. Simplify (a + b + c)(a + b - c).
5. Using identities evaluate: 8.56 × 11.6
6. Find the following product (x + 2) (x + 9).
7. If (x + 2) (x +a)= x^2 +5x + 6 ,then a is equal to _____.
8. If $x^2 + y^2$= 57 ,xy =16 and x is greater than y , then (x – y) is ____.

2 Marks Questions

9. If (a + $\frac{1}{a}$)= $\frac{17}{4}$,find the value of (a - $\frac{1}{a}$).
10. Using identities evaluate: $(99)^2$.
11. Simplify x(2x – 1) + 5 and find its value at x = -2.
12. Evaluate the value of $(95)^2$ using identities.
13. Verify the identity (x + a)(x + b) = x^2 + (a + b)x + ab for a = 2, b = 3 and x = 4.
14. Evaluate : 102 x 106 .
15. Expand $(-3x + 4y - 5)^2$
16. Using a suitable identity , evaluate : $(10.5)^2$
17. Find the product : (a + $\frac{1}{5}$) (a+ $\frac{2}{5}$)
18. Find volume of cuboid whose dimensions are (x^2 – 2); (2x + 4) and (x - 3).
19. Simplify the expression x(2x-1) + 5 and its value at x = -2.
20. Using suitable identities find $(xy + 3p)^2$.
21. Simplify :$(x + y + z)^2 + (x + y - z)^2$
22. Factorise the following expression : m^2 – 2m -15
23. factorize : x^2 -1 -2y - y^2
24. Find 194 × 206 using suitable identity.

3 Marks Questions

1. If (a + $\frac{1}{a}$)= $\frac{17}{4}$,find the value of (a - $\frac{1}{a}$).
2. Using a suitable identity , evaluate : $(999)^2$
3. Factorise : $49x^2 + 81y^2 + + 144z^2$ +126xy + 216yz + 168xz
4. Find $(2x + 3y)^2$ using algebraic identities.
5. Using the identity $(a-b)^2 = a^2 - 2ab + b^2$, find $(5a - 7b)^2$.
6. Find 194 × 206 using suitable identity.
7. If x + $\frac{1}{x}$ = 11 , find the value of x^2 + $\frac{1}{x^2}$
8. If 5x – 2y = 7 and xy = 2 , find the value of $(5x + 2y)^2$

4 Marks Questions

1. If $x^2 + \frac{1}{x^2} = 27$, find $(x - \frac{1}{x})$.
2. Find the following products $(a - 3b)(a + 3b)(a^2 + 9b^2)$
3. Simplify using identity: $\frac{2.3 \times 2.3 - 0.3 \times 0.3}{2.3 \times 2.3 - 2 \times 2.3 \times 0.3 + 0.3 \times 0.3}$
4. If $a + b + c = 12$ and $a^2 + b^2 + c^2 = 66$, find the value of $ab + bc + ca$.
5. The sum of $(x + 3)$ observations is $(x^4 - 81)$. Find the mean of the observations.
6. The area of the circle is given by the expression: $(\pi x^2 + 10\pi x + 25\pi)$.Find the radius of the circle.