Square Root and Cube Root

1. Find the value:
   (A) $35^2 = 1225$ (B) $54^2 = 2916$
   (C) $108^2 = 11664$ (D) $111^2 = 12321$

2. Find the value:
   (A) $\sqrt{271441} = 521$ (B) $\sqrt{522729} = 723$
   (C) $\sqrt{15129} = 123$ (D) $\sqrt{7\frac{1}{9}} = \frac{4}{9}$

3. Find the value:
   (A) $15^3 = 3375$ (B) $34^3 = 39304$
   (C) $101^3 = 1030301$ (D) $123^3 = 1860867$

4. Find the value:
   (A) $\sqrt[3]{17576} = 26$ (B) $\sqrt[3]{42875}$
   (C) $\sqrt[3]{132651} = 51$ (D) $\sqrt{3\frac{3}{8}} = \frac{3}{2}$

5. Solve X: $4(X+5)^2 = 676$.

6. If $Y = 2^2 \times 3^3 \times 4^4 \times 5^5 \times K$. Y is a perfect cube, then find the value of K can be _____

7. A ladder leans against a wall. The foot of the ladder is 2 m closer to the wall than the top reaches above the ground. The ladder is 10 m long. Find the height of the ladder that reaches on the wall.

8. A square shaped playground has a perimeter of 116 m. What is the area of the playground?

9. Alice and Leo are good friends. Alice asks Leo to think of a number, squares it and then adds 4. He says that the result is 68. What was the number that he was thinking of?

10. Pavan has clay of volume 1728 cm³. He was asked to reform the clay into smaller cubes of different volumes whose edges are integers in cm. Find the dimensions of the cubes that could be made by Pavan.

11. In a school, the number of students in each class room is twice the number of class rooms. If total number of students is 1800, then find the number of students in each classroom.

12. The breadth of a cuboid is twice the height of the cuboid and the length is thrice its breadth. If the volume of the cuboid is 2592 cm³, find the length of the cuboid. (Vol.of. Cuboid = lbh)

13. In a company, there are as many employees in each section as there are half the number of sections. The total number of employees is 3200. If they donate 1.50 per month on an average, then find the total amount collected from each section.

14. If the radius of a sphere is 'r', then its volume is $\frac{4}{3}\pi r^3$. If the volume of the sphere 38808 cm³, then find the radius of the sphere approximately. (Take π = 22/7).

15. A man plants his orchard with 5625 trees, and arranges them so that there are as many rows as there are trees in each row. How many rows are there?

16. A square park has an area of 6400 m². If the park is enlarged by 21%, find the new length of one side.

17. Find the area of a circle whose radius is equal to the side of an equilateral triangle of area $7\sqrt{3}$.

18. Three fair six-sided dice are rolled simultaneously. What is the probability that the sum of the numbers on the three dice equals 10?

19. Find the divisor and the quotient, given that the dividend is 1035, the divisor is one-fourth the quotient and the remainder is 11.

20. From a rectangular sheet of paper of area 143 sq.cm, a square is separated and the remaining rectangle has an area of 22 sq cm. Find the approximate length of a diagonal of the initial rectangle.