Uncovered Module System (UMS)

Chapter Name – Square & Square Root

Class- 8th

Remember & Understanding Based Questions

Ques.1) Two numbers are in the ratio of 9 : 7. If the difference of their square is 288, then the smaller of the number is
a) 28 b) 27 c) 24 d) 21

Ques.2) If one member of a pythagorean triplet is 2m, then the other two members are
a) $m^2 + 1, m^2 - 1$ b) $m^2, m + 1$ c) $m^2, m^2 - 1$ d) $m, m^2 + 1$

Ques.3) Which of the following cannot be a digit in the unit place of a perfect square?
a) 7 b) 0 c) 1 d) 5

Ques.4) How many pairs of natural numbers are there so that difference of their squares is 60?
a) 1 b) 4 c) 3 d) 2

Ques.5) The least perfect square which is divisible by 2, 4 and 6 is:
a) 16 b) 64 c) 18 d) 36

Ques.6) Which one of the following would end with digit 4?
a) 223^2 b) 226^2 c) 225^2 d) 228

Ques.7) Square numbers can only have _____number of zeros at the end.
a) Odd b) Composite c) Prime d) Even

Ques.8) If a number contains 5 zeros at the end, its square has _____ zeros.
a) 10 b) 150 c) 100 d) 30

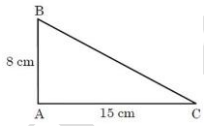
Ques.9) Without doing any calculation, find the numbers which are surely perfect squares.
1. 225
2. 237
3. 438
4. 143

a) B b) C c) D d) A

Ques.10) $1 + 3 + 5 + 7 + 9 + 11 + 13 =$ _____ $= 7^2$.

Ques.11) A 5.5 m long ladder is leaned against a wall. The ladder reaches the wall to a height of 4.4 m. Find the distance between the wall and the foot of the ladder.

Ques.12) In the figure find the length of BC.



Ques.13) Find the smallest square number divisible by each of the numbers 8, 9 and 10.

Ques.14) By what smallest number should 216 be divided so that the quotient is a perfect square? Also, find the square root of the quotient

Ques.15) Fill in the Blanks

1. The unit's digit of the square of a number having digit at unit's place as 1 or 9 is _____.
2. The square of an even number is _____.
3. $1\ m^3 =$ _____ cm^3 .
4. If m, n, p are natural numbers such that $(m^2 + n^2) = p^2$, then (m, n, p) is called a _____ triplet.

5. The numbers ending in an _____ number of consecutive zeros are not a perfect square.
6. There are _____ perfect squares between 1 and 50.
7. The least number of 6 digits which is a perfect square is_____.
8. The number of digits in the square root of 441 is _____.

Ques.16) State True & False

1. A number ending in an odd number of zeros is never a perfect square.
2. The sum of two square numbers is a square number.
3. The square of a prime number is prime.
4. A number ending in 2, 3, 7 or 8 is never a perfect square.
5. There are 25 numbers lie between square of 12 and 13.
6. All the numbers of a Pythagorean triplet must beodd.
7. If a^2 ends in 5, then a^3 ends in 25.
8. The sum of the first odd natural numbers is n^2.
9. The square root of a number x is denoted by $\sqrt{x}$.
10. The square root of a perfect square of n digits will have $\frac{n}{2}$ digits if n is even.
11. The product of two perfect squares is a perfect square.
12. The square root of a perfect square of n digits will have $\left(\frac{n+1}{2}\right)$ digits if n is odd.
13. √2 correct to 4 decimal places is 1.4143.

Analytical Based Questions

Ques.1) Assertion (A): $7^2 = 23 + 24$.
Reasons (R): The sum of any two consecutive numbers is always odd.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.2) Assertion (A): The unit digit in the square of the number 209 is 1.
Reasons (R): Units digit of a number is the digit in the one's place of the number.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.3) Assertion (A): All numbers between squares of 12 and 13 are non - square numbers.
Reasons (R): The non square numbers the between the pair of numbers 500^2 and 501^2 are 1001.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.4) Assertion (A): The natural numbers lie between 12^2 and 13^2 are 24.
Reasons (R): Natural numbers are positive integers or non - negative integers which start from 1 and end at infinity.

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.5) Assertion (A): The number of zeros in the square of the number 9000 is 6.
Reasons (R): If a number ends with n zeros, its square ends with 2n zeroes.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.6) Assertion (A): A number ending in an odd number of zeros is also a perfect square.
Reason (R): Squares of even numbers are even.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.7) Match the Column

Column A	Column B
1. The square root of 117 lies between	(a) 9 and 10
2. The square root of 150 lies between	(b) 10 and 11
3. The square root of 93 lies between	(c) 14 and 15
4. The square root of 213 lies between	(d) 12 and 13

Ques.8) Match the Column

Column A	Column B
1. 7^2	(a) 60 + 61
2. 21^2	(b) 84 + 85
3. 13^2	(c) 220 + 221
4. 11^2	(d) 24 + 25

Ques.9) None of the square numbers ends with _____at unit's place.
a) 6 b) 2, 3, 7 or 8 c) 4, 6 or 9 d) 5

Ques.10) All perfect square numbers end with _____ at unit's place.
a) 0, 1, 4, 5, 6 or 9 b) 0,1,2,4,5,6,9 c) 1,0,3,4,7,9 d) 0,1,3,4,5,6,9

Ques.11) If M is a square number, then the next immediate square number is:
a) M + 5 b) $M + 2\sqrt{M} + 1$ c) $M^2 + 2M$ d) M + 8

Ques.12) A perfect square number having 'n' digits, where 'n' is even, will have square root with
a) $\frac{n}{2}$ b) $\left(\frac{n+1}{2}\right)$ c) $\frac{n}{3}$ d) (n + 1) digit

Ques.13) In how many steps the successive odd numbers are to be subtracted from 49 to get 0?
a) 7 b) 9 c) 5 d) 6

Ques.14) Which of the following is not a perfect square number?
1. 2400
2. 2401
3. 2500
4. none of these

a) C b) D c) B d) A

Ques.15) If$\sqrt{18225}$ = 135, then the value of $\sqrt{18225} + \sqrt{182.25} + \sqrt{1.8225} + \sqrt{0.018225}$ is
a) 1.49985 b) 149.985 c) 14.985 d) 1499.85

Ques.16) Write a Pythagorean triplet whose one number is 18

Ques.17) What will be the unit digit of the square of 52698?

Ques.18) Express 36 as a sum of successive odd natural numbers.

Ques.19) Express the number 81 as the sum of the first nine consecutive odd numbers.

Ques.20) The number 222222 is obviously not a perfect square. Give reason.

Ques.21) Find the least number which must be subtracted from 3250 so as to get a perfect square. Also find the square root of the perfect square so obtained.

Ques.22) Find the least number which must be added to 1825 so as to get a perfect square. Alsofind the square root of the perfect square so obtained.

Ques.23) Find the value of $\sqrt{12996}$ and hence, simplify the expression

$$\sqrt{0.012996} + \sqrt{1.2996} + \sqrt{129.96}$$

Ques.24) Without adding, find the sum :

1. 1 + 3 + 5 + 7 + 9
2. 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 +17 + 19
3. 1 + 3 + 5 + 7 + 9 + 11 +13 + 15 + 17 + 19 + 21 + 23.

Ques.25) During a mass drill exercise, 6250 students of different schools are arranged in rows such that the number of students in each row is equal to the number of rows. In doing so, the instructor finds out that 9 children are left out. Find the number of children in each row of the square.

Ques.26) There are 2401 students in a school. P.T. teacher wants them to stand in rows and columns such that the number of rows is equal to the number of columns. Find the number of rows.

Ques.27) Area of a square plot is 2304 m^2 . Find the side of the square plot.