MATH ASSIGNMENT NO. 1
SQUARES AND SQUARE ROOTS
CLASS-VIII

Instructions: Q1 to Q31 carries 1 mark each and Q32 to Q36 carries 2 marks each.

Q1. If one number of the Pythagorean triplet is 9, then find the triplet.

Q2. Find the square root of the following correct to two places of decimal:
 (i)   500 (ii) 196 (iii) 625

 Q3. Using properties of squares and square roots calculate: $100^2 - 98^2$

Q4. By what least number should 2028 be multiplied so that the product is a perfect square? Find the square root of the product so obtained.

Q5. By what least number should 3528 be divided so that the quotient is a perfect square? Find the square root of the quotient so obtained.

 Q6. What least number must be added to 6412 to make the sum a perfect square? Find this perfect square and its square root.

 Q7. Simplify: $(\sqrt{0.2304} + \sqrt{0.1764}) / (0.2304 - \sqrt{0.1764})$

Q8. Which number can replace the question marks in the equation?
 $(? / \sqrt{128}) = (\sqrt{162} / ?)$

Q9. Express 16 as sum of odd numbers.

Q10. A sports teacher wants to arrange 6000 students in a field such that the number of rows is equal to number of columns. Find the number of rows if 71 were left out after arrangement.

Q12. Evaluate $\sqrt{3675} \times \sqrt{2352}$

 13.   A perfect square number can never have the digits ... at the units place.
14. Find $\sqrt{5625}$
15. Find the value of $(23)^2$ using column method.
16. Find the value $\sqrt{45} \times \sqrt{25}$
17. Write a Pythagorean triplet whose smaller member is 6.
18. What is the sum of first n odd natural numbers?

19. A number ending in an odd number of zeros is never a _____.
20. If m, n, p are natural numbers such that
    $(m^2 + n^2) = p^2$, then (m, n, p) is called _____.

21. Express 49 as the sum of seven odd numbers.

22. Without adding, find the sum.
    (1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17)

23. Find the value of $\sqrt{441}$

24. Write the unit digit of square of 799.

25. Simplify
    $$\left(\sqrt{81} + \sqrt{0.81} + \sqrt{0.0081}\right) \times \sqrt{10000}$$

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

27. Find the smallest number by which 1800 must be multiplied so that it becomes a perfect square. Also find the square root of the perfect square so obtained.

28. Is 2352 a perfect square? if not, find the smallest number by which 2352 must be multiplied so that the product is a perfect square. Find the square root of new number.

29. The area of a square field is 8281 m^2. Find the length of its side.

30. 1225 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.

31. Find the smallest number by which 3645 should be divided so as to get a perfect square. Also, find the square root of the number so obtained.

32. For each of the following numbers, find the smallest number by which we divide it so as to get a perfect square. Also find the square root of the square numbers so obtained.
    (a) 37845   (b) 2800   (c) 45056

33. There are 500 children in a school. For a P.T. drill they have to stand in such a manner that the number of rows is equal to number of columns. How many children would be left out in this arrangement? (2)

34. A school collected Rs 2304 as fees from its students. If each student paid as many paise as there were students in the school, how many students were there in the school? (2)

35. 2025 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row. (2)

36. 10404 students are sitting in a lecture room in such a manner that there are as many students in a row as there are rows in a lecture room. How many students are there in each row of a lecture room? (2)