1. What will be the unit digit of the squares of the following numbers?

 (i) 81   (ii) 272   (iii) 799   (iv) 3853   (v) 1234

(vi) 26387   (vii) 52698   (viii) 99880   (ix) 12796   (x) 55555

Sol: (i) 81

 Unit digit of 81 is 1

∵ 1 × 1 = I

 ∴ The unit's digit of $(81)^2$ will be 1.

(ix) 12796

Unit digit of 12796 is 6

    ∵ 6 × 6 = 36

Unit digit of 36 is 6

   The unit's digit of $(12796)^2$ will be 6.

2. The following numbers are obviously not perfect squares. Give reason.

    (i) 1057   (ii) 23453   (iii) 7928   (iv) 222222

    (v) 64000   (vi) 89722   (vii) 222000   (viii) 505050

Sol: (i) 1057

    Since, the ending digit is 7 (which is not one of 0, 1, 4, 5, 6 or 9)

    ∴1057 is not a perfect square.

3. The squares of which of the following would be odd numbers?

    (i) 431   (ii) 2826   (iii) 7779   (iv) 82004

Sol: Since the square of an odd natural number is odd

and that of an even number is an even number.

    (i) The square of 431 is an odd number.

       [∵ 431 is an odd number.]

    (ii) The square of 2826 is an even number.

       [∵ 2826 is an even number.]

4. Observe the following pattern and find the missing digits.

    11^2 =121

    101^2 =10201

    1001^2 =1002001

    100001^2 =1............2 1

    10000001^2 = ...

5. Observe the, following pattern and supply the missing number.

    11^2 = 121

    101^2 = 10201

    10101^2 = 102030201

    1010101^2 = ...^{2} = 10203040504030201