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CLASS:- 8th

EXERCISE:- 6-1

Q-1) What will be the unit digit of squares of the following numbers?

Solⁿ:-

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i) 81

unit digit of square = 1 ($1^2 = 1$)

ii) 272

unit digit of square = 4 ($2^2 = 4$)

iii) 799

unit digit of square = 1 ($9^2 = 81$)

iv) 3853

unit digit of square = 9 ($3^2 = 9$)

v) 1234

unit digit of square = 6 ($4^2 = 16$)

vi) 26387

unit digit of square = 9 ($7^2 = 49$)

vii) 52698

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Unit digit of square = 4 ($8^2 = 64$)

viii) 99880

Unit digit of square = 0 ($0^2 = 0$)

ix) 12796

Unit digit of square = 6 ($6^2 = 36$)

x) 55555

Unit digit of square = 5 ($5^2 = 25$)

Q-2) The following numbers are obviously not perfect squares. Give reasons
solⁿ

i) 1057

It is not a perfect square because perfect square doesn't have '7' at unit place.

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ii) 23453

It is not a perfect square because perfect square doesn't have '3' at unit place.

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iii) 7928

It is not a perfect square, because perfect square doesn't have '8' at unit place.

iv) 222222

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It is not a perfect square, because perfect square doesn't have '2' at unit place.

v) 64000

It may be a perfect square.

vi) 89722

It is not a perfect square, because perfect square doesn't have '2' at unit place.

vii) 222000

It may be a perfect square.

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viii) 5050 50

It may be a perfect square.

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Q-3) The squares of which of the following is odd number

Solⁿ:-i) 431

Square of 431 is odd number as ($1^2=1$) square has 1 at unit place.

ii) 2826

Square of 2826 is even number as ($6^2=36$) square has 6 at unit place.

iii) 7779

Square of 7779 is odd number as ($9^2=81$) square has 1 at unit place.



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iv) 82004

Square of 82004 is even number as $(4^2=16)$ square has 6 at unit place.

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Q-4) observe the following pattern and find missing digits

Solⁿ

$$11^2 = 121$$

$$101^2 = 10201$$

$$1001^2 = 1002001$$

$$10001^2 = 10000200001$$

$$1000001^2 = 100000020000001$$

Q-5) observe the following pattern and find the missing numbers

Solⁿ

$$11^2 = 121$$

$$101^2 = 10201$$

$$10101^2 = 102030201$$

$$1010101^2 = 1020304030201$$

$$101010101^2 = 10203040504030201$$

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Q-6) Using the given pattern, find the missing numbers

Solⁿ:-

$$1^2 + 2^2 + 2^2 = 3^2$$

$$2^2 + 3^2 + 6^2 = 7^2$$

$$3^2 + 4^2 + 12^2 = 13^2$$

$$4^2 + 5^2 + \underline{20^2} = 21^2$$

$$5^2 + \underline{6^2} + 30^2 = 31^2$$

$$6^2 + 7^2 + \underline{42^2} = \underline{43^2}$$

Q-7) without adding, find the sum.

Solⁿ

$$\begin{aligned} \text{1) } & 1 + 3 + 5 + 7 + 9 \\ & = (5)^2 \\ & = 25 \end{aligned}$$

Sum of (n) consecutive odd numbers is equal to n^2 .

$$\text{ii) } 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19$$

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$$= (10)^2$$

$$= 100$$

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Sum of 'n' consecutive odd numbers is equal to n^2

iii)

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

$$= (12)^2$$

$$= 144$$

Sum of consecutive 'n' odd numbers is equal to n^2

Q-8) solve

Solⁿ

i) Express 49 as sum of 7 odd numbers

$$49 = 1 + 3 + 5 + 7 + 9 + 11 + 13$$

ii) Express 121 as sum of 11 odd numbers

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$$121 = 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21$$

Q-9) How Many numbers lie between squares of following numbers

Solⁿ

i) 12 and 13

numbers between n^2 and $(n+1)^2$

are $2n$

$$n = 12$$

$$n+1 = 13$$

numbers are $2n$

$$= 2 \times 12$$

$$= 24$$

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ii) 25 and 26

number between n^2 and $(n+1)^2$

are $2n$

$$n = 25$$

$$n+1 = 26$$

number = $(2n)$

$$= 2 \times 25$$

$$= 50 \text{ and } \text{YOUR MATH SOLUTION}$$

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iii) 99 and 100
numbers between n^2 and $(n+1)^2$
is $2n$.

$$n = 99$$

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$$n+1 = 100$$

$$2 \times 99 = 198 \text{ numbers}$$

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