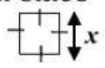


Square of a number: Let us consider a square (a four sided closed figure having all sides equal in length), having 'x' as length of its each side. Then what will be its area. 

Area of square = length of a side $\times$ length of a side

$$= x \times x$$

$$= x^2$$

(index notation)

x is the base

2 is index / exponent

Square Numbers

Numbers which can be arranged in a square shape - for example:

x^2 is read as : square of 'x' / 'x' squared or x raised to the power 2.

* If length of side of a square is 6cm then area of square is $6\text{cm} \times 6\text{cm} = 36\text{cm}^2$. $\therefore$ 36 is said to be the square of 6.

So we can conclude that square of a number means product of a number with itself.

e.g. $1^2 = 1 \times 1 = 1$

$2^2 = 2 \times 2 = 4$

$3^2 = 3 \times 3 = 9$

Perfect Square : The number which is square of the other number. e.g. $0^2 = 0 \times 0 = 0$, $1^2 = 1 \times 1 = 1$, $2^2 = 2 \times 2 = 4$, $3^2 = 3 \times 3 = 9$ etc. Here 0, 1, 4, 9 are the perfect square numbers.

Square of negative number: $(-1)^2 = (-1) \times (-1) = 1$, $(-2)^2 = (-2) \times (-2) = 4$ & $(-3)^2 = (-3) \times (-3) = 9$ etc.

So, square of every negative number is always a positive number.

Product of two negative numbers is always a positive number

1. Match each of the following expression to its correct symbolic form.

Statement	Symbolic Form
(i) (- 5) squared	$(6)^2$
(ii) Square of + 12	$(0)^2$
(iii) Square of additive identity	12^2
(iv) 6 raised to the power 2	-5^2
	$(-5)^2$

2. Ayesha solved questions as follows, choose the step where she made mistake.

(i) Square of - 9

Solution: -9^2

$= + 81$

(ii) Square of + 13

Solution: $(13)^2$

$= 13 + 13 = 169$

3. Choose the correct option.

(i) Square of (-1) is same as:

(a) opposite of (-1)

(b) + 1

(c) both a& b

(ii) The number(s) whose square is number itself is/are:

(a) Zero, 1

(b) zero, -1

(c) 1& -1

(iii) Square of multiplicative identity is :

(a) Zero

(b) -1

(c) +1

(iv) 17 times 17 =

(a) 2×17

(b) 17^2

(c) 2^{17}

(v) Shaded Area of given figure can be calculated as:

(a) $(52 \times 52)\text{cm}^2$

(b) $4 \times 52 \text{ cm}$

(c) $52 + 52$

(d) $2 \times 52\text{cm}$

(vi) Square of multiplicative identity has same value as:

(a) $0 \times (-1)$

(b) $\sqrt{1}$

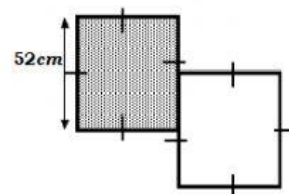
(c) $0 + (-1)$

(vii) If $(23)^2 = 529$, it means :

(a) 23 is square root of 529 .

(b) 529 is square of 23

(c) both 'a' & 'b'



(viii) If square root of area of square is 5cm, length of each side is:

- (a) $5\text{cm} \times 5\text{cm}$ (b) 5cm^2 (c) 5cm

4. Encircle yes or No for each of following statement.

- (a) Square of an even number is always an odd number. yes /No
 (b) $(\text{length of each side of square})^2 = \text{Area of square}$ yes /No
 (c) If $a^2 = b$, it means b is square root of a. yes /No
 (d) The prime factorization of 36 is $\sqrt{2 \times 2 \times 3 \times 3}$ yes /No

5. Choose the imperfect square numbers from following.

- (a) 36 (b) 324 (c) 81 (d) 0 (e) 6 (f) 100 (g) 31

6. Drag and drop the square or square root to its equivalent number.

9^2	$\sqrt{49}$	6^2	$\sqrt{16}$	$\sqrt{64}$	5^2	$\sqrt{81}$	$\sqrt{100}$
$\sqrt{44}$	$\sqrt{9}$	$\sqrt{25}$	8^2	$\sqrt{36}$	$\sqrt{121}$	7^2	

5	
7	
36	
8	
3	

81	
25	
9	
4	
11	

10	
64	
6	
49	
12	