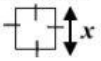
Name: _____ Roll# : _____ Section: _____

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 × length of a side

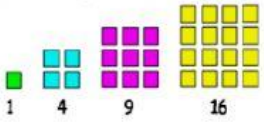
$= x \times x$

$= x^2$ *(index notation)*

x is the base — *2 is index / exponent*

Square Numbers

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



$1 \times 1 = 1 = 1^2$
$2 \times 2 = 4 = 2^2$
$3 \times 3 = 9 = 3^2$
$4 \times 4 = 16 = 4^2$

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 6cm × 6cm = 36cm². ∴ 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 from.

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.

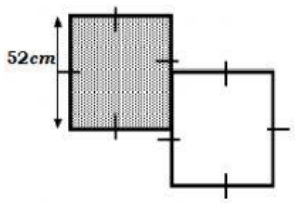
(i) Square of (-1) is same as:
(a) opposite of (-1) (b) + 1 (c) both a& b

(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 × 52)cm² (b) 4× 52 cm
(c) 52 + 52 (d) 2× 52cm



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

(a) 0 × (— 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'

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

(a) 5cm × 5cm *(b) 5cm²* *(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) $(length\ of\ each\ side\ of\ square)^2$ ***= Area of square yes /No***

(c) If a² = b , it means b is square root of a. yes /No

(d) The prime factorization of 36 is $\sqrt[2]{2 \times 2 \times 3 \times 3}$ ***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 sqaure or square root to its equivalent number.

9^2	$\sqrt{49}$	6^2	$\sqrt{16}$	$\sqrt{64}$	5^2	$\sqrt{81}$	$\sqrt{100}$
$\sqrt{144}$	$\sqrt{9}$	$\sqrt{25}$	8^2	$\sqrt{36}$	$\sqrt{121}$	7^2	

5	
7	
36	
8	
3	

81	
25	
9	
4	
11	

10	
64	
6	
49	
12	

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