

M.D. SENIOR SECONDRY SCHOOL-MANKROLA(GRG)

HOMEWORK FILE

CLASS-VIII

SUBJECT-ENGLISH

DATED-25-07-20

REVISE THE SAME WORK AS TODAY'S HOMEWORK.

- 1.Read the chapter- Bees in my Backyard.
2. Find the difficult words from the lesson.
- 3.Learn the questions answer of "Save Forest-Save Earth"

Class:-8<sup>th</sup>                      Date:- 25July, 2020

Subject:- Computer    Home work

Read Ch:-3    Creating Web Page in HTML

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Do the following in your fair notebook .

### 3.1.2 COLUMN METHOD OF SQUARING

Finding the square of a given integer is simple. We have to only multiply the given integer by itself.

Let us find the square of two-digit numbers by the Column Method. This method is based upon an old Indian method. It is a quicker method for finding the square of two-digit numbers without actual multiplication.

In this method, we use the identity  $(x + y)^2 = x^2 + 2xy + y^2$ .

#### WORKING RULES

##### To Find the Square of Two-digit Number

Let  $xy$  be a number, where  $x$  is the tens digit and  $y$  is the ones digit.

**Step 1 :** Make three columns and write as  $x^2$ ,  $2xy$  and  $y^2$  respectively.

**Step 2 :** Underline the ones digit of  $y^2$  (in Column III) and add the tens digit of  $y^2$  (if any) to  $2xy$  (in Column II).

**Step 3 :** Underline the ones digit of  $2xy$  (in Column II) and add the tens digit (if any) to  $x^2$  (in Column I).

**Step 4 :** Underline the all digits (in Column I).  
The underlined digits give the required square.

11. Find the squares of the following numbers using the *Column method*.

Verify the result by finding the square using the prime factorisation method :

(i) 25

(ii) 35

(iii) 45

(iv) 90

(v) 75

(vi) 53

#### SOLUTION OF THESE QUESTIONS :-

11. (i) We take  $x = 2$  and  $y = 5$  to find  $(25)^2$ .

Column (I) ( $x^2$ )	Column (II) ( $2xy$ )	Column (III) ( $y^2$ )
$2^2$	$2 \times 2 \times 5$	$5^2$
4	20	<u>2</u> 5
+ <u>2</u>	+ <u>2</u>	
6	<u>2</u> 2	
6	2	5

The square of 25 is **625**.

#### Verification :

$$\begin{aligned} \therefore 625 &= (5 \times 5) \times (5 \times 5) \\ &= 5^2 \times 5^2 = (25)^2 \end{aligned}$$

**Hence verified**

5	625
5	125
5	25
5	5
	1

(ii) We take  $x = 3$  and  $y = 5$  to find  $(35)^2$ .

Column (I) ( $x^2$ )	Column (II) ( $2xy$ )	Column (III) ( $y^2$ )
$3^2$	$2 \times 3 \times 5$	$5^2$
9	30	<u>2</u> 5
+ <u>3</u>	+ <u>2</u>	
12	<u>3</u> 2	
	2	5

$$\therefore (35)^2 = 1225.$$

**Verification :**

$$\begin{aligned} \therefore 1225 &= \underbrace{5 \times 5} \times \underbrace{7 \times 7} \\ &= 5^2 \times 7^2 = (35)^2 \end{aligned}$$

**Hence verified**

5	1225
5	245
7	49
7	7
	1

*(iii)* We take  $x = 4$  and  $y = 5$  to find the square of 45.

Column (I) ( $x^2$ )	Column (II) ( $2xy$ )	Column (III) ( $y^2$ )
$4^2$ 16	$2 \times 4 \times 5$ 40 + <u>2</u> 42	$5^2$ <u>2</u> 5
+ <u>4</u> <u>20</u>	<u>4</u> 2 2	5

$$\therefore (45)^2 = 2025.$$

*(v)* To find  $(75)^2$ , let  $x = 7$  and  $y = 5$ .

Column (I) $x^2$	Column (II) $2xy$	Column (III) $y^2$
$7^2$ 49	$2 \times 7 \times 5$ 70 + <u>2</u> 72	$5 \times 5$ <u>2</u> 5
+ <u>7</u> <u>56</u>	<u>7</u> 2 2	5

$$\therefore (75)^2 = 5625.$$

**Verification :**

$$\begin{aligned} \therefore 2025 &= \underbrace{5 \times 5} \times \underbrace{3 \times 3} \times \underbrace{3 \times 3} \\ &= 5^2 \times 3^2 \times 3^2 \\ &= (45)^2 \end{aligned}$$

**Hence verified**

5	2025
5	405
3	81
3	27
3	9
3	3
	1

*(iv)* We take  $x = 9$  and  $y = 0$  to find  $(90)^2$ .

Column (I) ( $x^2$ )	Column (II) ( $2xy$ )	Column (III) ( $y^2$ )
$9^2$ 81	$2 \times 9 \times 0$ 0	$0^2$ 0

$$\therefore (90)^2 = 8100.$$

**Verification :**

$$\begin{aligned} \therefore 8100 &= \underbrace{2 \times 2} \times \underbrace{3 \times 3} \times \underbrace{3 \times 3} \\ &\quad \times \underbrace{5 \times 5} \\ &= 2^2 \times 3^2 \times 3^2 \times 5^2 \\ &= (90)^2 \end{aligned}$$

**Hence verified**

2	8100
2	4050
3	2025
3	675
3	225
3	75
5	25
5	5
	1

Verification :

3	5625
3	1875
5	625
5	125
5	25
5	5
	1

$$\begin{aligned}\therefore 5625 &= \underbrace{3 \times 3} \times \underbrace{5 \times 5} \times \underbrace{5 \times 5} \\ &= 3^2 \times 5^2 \times 5^2 \\ &= (75)^2\end{aligned}$$

Hence verified

(vi) We take  $x = 5$  and  $y = 3$  to find the square of 53.

Column (I) $x^2$	Column (II) $(2x \times y)$	Column (III) $y^2$
$(5)^2$	$2 \times 5 \times 3$	$(3)^2$
25	$\boxed{3}0$	<u>9</u>
+ $\boxed{3}$		
<hr/>	<hr/>	<hr/>
28	0	9

Hence, the square of 53 is **2809**.

Verification :

53	2809
53	53
	1

$$\begin{aligned}\therefore 2809 &= 53 \times 53 \\ &= (\underline{53})^2\end{aligned}$$

Hence verified