

# 01. Multiplication: Special Case

## a. Numbers differ by 2

Eg: ①  $66 \times 68$ .

S1: Find NO. between the two Numbers.

S2: Then Apply 'Square' & Subtract 1.

$$= 67^2 - 1$$

$$= 4489 - 1$$

$$= \underline{4488}$$

②  $20 \times 22$ .

$$21^2 - 1 = 441 - 1$$

$$= \underline{440}$$

$6 \ 7$   
 $\swarrow \quad \searrow$   
 $6^2 \ 2(6)(7) \ 7^2$   
 $36 \ 84 \ 49$   
 $36 \ 88 \ 9$   
 $\underline{4489}$   
 $4 \ 2(2)(1) \ 1$   
 $441$

## b. Numbers differ by 4

Eg: ①  $20 \times 24$ .

S1: Find the NO. between the two Numbers

S2: Then Apply 'Square' & Subtract 4.

$$= 22^2 - 4$$

$$= \underline{480}$$

$$2 \ 2(2)(2) \ 4$$
$$484$$

Eg: ②  $82 \times 86$ .

$$= 84^2 - 4$$

$$= \underline{7052}$$

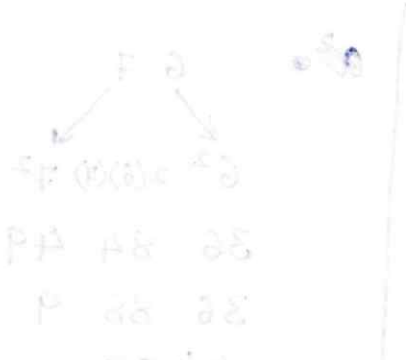
$$64 \ 2(8)(4) \ 16$$
$$64 \ 64 \ 16$$
$$64 \ 65 \ 6$$
$$7056$$

Eg. ③

$$586 \times 590$$

$$= 588^2 - 4$$

~~2024~~



Eg. ④

$$696 \times 700$$

1 1000 1  
1 111

Multiplication: special case  
numbers differ by 2

$$58 \times 62$$

Find the no. between the two numbers.  
Then apply square & subtract 1.

$$1 - 58^2 =$$

$$1 - 62^2 =$$

$$58 \times 62 =$$

$$58 \times 62$$

$$1 - 111^2 = 1 - 12321$$

$$111$$

numbers differ by 4

$$50 \times 54$$

Find the no. between the two numbers

Then apply square & subtract 4

$$50^2 - 4 =$$

$$54$$

1 1000 1  
1 111

$$82 \times 88$$

$$82^2 - 4 =$$

$$88$$

1 1000 1  
1 111  
1 111  
1 111  
1 111

### C. Numbers by 6

S1: Find the NO. between the two numbers.

S2: Then apply 'Square' & Subtract '9'

Eg: ①  $83 \times 89.$

$$\frac{83+89}{2}$$

S1: 86

S2:  $86^2 - 9$

$7396 - 9$

$= 7387$

•  $64 \quad 2(8)(6) \quad 36$

$64 \quad 96 \quad 36$

$64 \quad 99 \quad 6$

$7396.$

②  $98 \times 104$

S1: 101.

S2:  $101^2 - 9.$

$= 10201 - 9$

$= 10192$

101

101

10201