

Aptitude Shortcuts

Friends, here I am sharing some shortcut methods which I came across these days. I hope these may helpful for you.

1. Multiplying 2 digit numbers which are starting with the same digit and the sum of the last 2 digits gives sum as 10.

Eg1. 52x58

(Here the numbers start with same digit as well as the sum of last digits $2+8=10$)

Method :

Step 1-Here both the numbers 52 and 58 starts with 5. So take the very next digit of 5 i.e $(5+1)=6$.

Step 2-Multiply 5×6 . $5 \times 6 = 30$. This 30 is the left part of our answer.

Step 3-Multiply the other 2 digits. i.e $2 \times 8 = 16$, which is the right part of our answer.

So answer is 3016.

In short

$52 \times 58 \rightarrow 5 \times (5+1)$ and $2 \times 8 = 30$ and $16 = 3016$.

Eg2. 63x67

Step 1-Here both the numbers 63 and 67 starts with 6. So take the very next digit of 6 i.e $(6+1)=7$.

Step 2-Multiply 6×7 . $6 \times 7 = 42$. This 42 is the left part of our answer.

Step 3-Multiply the other 2 digits. i.e $3 \times 7 = 21$, which is the right part of our answer.

Answer is 4221.

Eg3. 72x76

shortcut methods in quantitative aptitude – Jisha G Nair

Here both the numbers start with 7, but the second condition to use the above method, i.e. $2+6 = 8$, not equal to 10. So we cannot use this method.

2. Shortcut technique to find the Sum of powers of 2.

We know that,

$$2^0=1$$

$$2^1=2$$

$$2^2=4$$

$$2^3=8$$

$$2^4=16.....etc$$

Now we want to find

Eg1. 2^0+2^1

Method : $2^0+2^1=1+2=3$ and it is same as 2^2-1 , i.e. $2^2-1=4-1=3$.

Eg2. $2^0+2^1+2^2$

Method : $2^0+2^1+2^2=1+2+4=7$ and it is same as 2^3-1 , i.e. $8-1=7$

Eg3. $2^0+2^1+2^2+2^3$

Method : $2^0+2^1+2^2+2^3=1+2+4+8=15$ and it is same as 2^4-1 i.e. $16-1=15$.

In short $2^0+2^1+2^2+2^3+2^4+.....+2^n=2^{n+1}-1$.

3.Sum of first n odd numbers.

We know that the squares

$$1^2=1$$

$$2^2=4$$

$$3^2=9$$

$$4^2=16$$

$$5^2=25....etc$$

But we can write $1^2=1$

$$2^2=1+3=4$$

$$3^2=1+3+5=9$$

$$4^2=1+3+5+7=16$$

$$5^2=1+3+5+7+9=25$$

That means square of a number n is equal to the sum of first n odd numbers.

Eg.1 Find the sum of first 5 odd numbers.

Method/Ans: Here first 5 odd numbers means 1,3,5,7,9.From the above method, it is clear that 5^2 is equal to sum of the first 5 odd numbers.So answer is 5^2 ,i.e 25.

Eg2. Find the sum of first 10 odd numbers.

Method/Ans : Sum of first 10 odd numbers means take 10^2 ,i.e 100.

In general,for finding the sum of first n odd numbers , take the square of n,i.e n^2 .

All the best !!