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Magical Tips

Tip-1 How to find Square of a number ending with 5?

After learning this you will be able to find square of a number ending with 5 say 25, 35, 45 etc. You can even try to find square of a three digit number ending with 5 say 105, 115, 125 etc.

Say you want to find square of 85

Do the following:

- Multiply 5 by 5 and put 25 as your right part of the answer.
- Multiply 8 by the next higher digit i.e 9 and put 72 as your left part of the answer.
- Your answer is 7225

You can use this formula to find square of any number ending with 5.

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Tip-2 How to find out square of an adjacent number?

You know the squares of 30, 40, 50, 60 etc. but if you are required to calculate square of 31 or say 61 then you will scribble on paper and try to answer the question. Can it be done mentally? Some of you will say may be and some of you will say may not be. But if I give you a formula then all of you will say, yes! it can be. What is that *formula*…..

The formula is simple and the application is simpler.

Say you know $60^2 = 3600$

Then 61^2 will be given by the following

$61^2 = 60^2 + (60 + 61) = 3600 + 121 = 3721$

or Say you know $25^2 = 625$ then

$26^2 = 625 + (25 + 26) = 676$

Magical Methods was started by Mr. Pradeep Kumar an alumnus of IIM Bangalore with three other friends who also are alumnus of IIM Bangalore and Lucknow.

Like above, you can find out square of a number that is one less than the number whose square is known.

Let me show it by taking an example:

Say you know $60^2 = 3600$

Then 59^2 will be given by the following

$59^2 = 60^2 - (60 + 59) = 3600 - 119 = 3481$

or Say you know $25^2 = 625$ then

$24^2 = 625 - (25 + 24) = 576$

Apply it to find square of a digit, which is one, less than the square of a known digit. This works very well for the complete range of numbers.

Mr. Pradeep Kumar has written several books on Vedic Mathematics. He holds more than 100 copyrights and 15 patents. He is on the Expert Panel of Times of India and Hindustan Times.

Tip-3 How to find out square of a number near 100?

Numbers Less than 100

Say you want to find Square of 98.

98 is 2 away from 100. So what?

The square will be given by 98 - 2 /02^2 = 9604

Say you want to find Square of 97

97 is 3 away from 100.

Square of this will be given by 97 - 3/03^2 = 9409

Numbers More than 100.

Say you want to find square of 102

102 is 2 away from 100, its 2 more than 100 therefore we will add 2 more to it and the square will be given by

102 + 2/ 02^2 = 10404

After going through these three examples you should be able to understand the technique. The technique is to reduce or add as much as it is away from 100 and put square of difference on it.

Tip-4 Multiplication

The First Formula

To Multiply two digit numbers: Remember: 1. The digits on the left hand should be same. 2. On adding the right hand digits you must get 10.

Example: 65 x 65 or 36 x 34

The Magical Method: 65 x 65 = 4225

What did we do?

1. We first multiplied the right hand side digits (5 x 5) and wrote 25.
2. We added 1 to the left digit 6 and got 7.
3. We then multiplied 6 by 7 and wrote the answer 42 to the left of 25.
4. We thus arrived at the answer 4225.

Let's try another example: 46 x 44

1. 6 x 4 = 24
2. 4 + 1 = 5
3. 4 x 5 = 20
4. Answer: 2024

Note: What if we have to multiply 69 x 61? The answer would be 4209.

But why the extra 0? Because the right hand side of the answer should always have two digits.

Tip-4 Divisibility

I am going to describe divisibility of a number by 13. In schools and coaching institutes students are taught divisibility of a number by 2, 3, 4, 5, 6, 8, 9 and 11. I hope you are all aware of this.

A number will be divisible by 2, if it is an even number. A number will be divisible by 3, if sum of the digits is divisible by 3 and so on and so fourth... But what about 7, 13, 17, 19 and other odd numbers?

Our contemporary mathematics is silent on this. In Vedic we have solutions for all these (surprised?)

Let me introduce 13. [Operator of 13 is 4 How?**]

Find whether 1001 is divisible by 13?

By seeing it is difficult to say.

Do the following operations:

1001= 100+1(last digit)*4(operator)= 104= 10+ 4 (last digit)*4(operator)=26

Since 26 is divisible by 13 therefore, 1001 is divisible by 13.

What have we done here?

We separated the last digit of the number, multiplied it by the operator and added the result to the rest.

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What is Intelligent Guessing? Or IG™

We are teaching students for competitive examination since last Ten years. The students put in a lot of time and effort preparing for a competition. Fifty percent of the students take the competition just to test the water. 50 % of the remaining take the competition due to various kinds of pressure viz. peer pressure, family pressure, spouse pressure etc. Only 25 % of the participants are the serious contender who really prepares for the competition. Still the competition is quite tough. From our experience we know that these competitions are competition between equals. And in these circumstances only those students will succeed who have some **extra edge**.

This **extra edge** comes in the form of Intelligent Guessing. But the question arises what is Intelligent Guessing?

The conventional method teaches us step-by-step method of problem solving. All of us are aware of the conventional method of problem solving. But conventional method takes a lot of time. Multiple-choice questions which comes in most of the competitive examination can be solved by other method i.e Intelligent Guessing.

Let us explain this with the help of a real world Problem.

1. Three friends, returning from a movie, stopped to eat at a restaurant. After dinner, they paid their bill and noticed a bowl of mints at the front counter. Sita took $\frac{1}{3}$ of the mints, but returned four because she had a momentary pang of guilt. Fatima then took $\frac{1}{4}$ of what was left but returned three for similar reasons. Eswari then took half of the reminder but threw two back into the bowl. The bowl had only 17 mints left when the raid was over. How many mints were originally in the bowl?

1.	38	2.	31	3.	41	4.	53	5.	None of these

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Solution Using Conventional System and Intelligent Guessing

Ans 1.	Let us say the ball had x mints $\rightarrow$ Sita took $\frac{x}{3}$ and returned 4 * Remaining mint in the ball $\frac{2}{3}x+4$. $\rightarrow$ Fatima tool $\frac{1}{4}$ of whatever left & returned 3.
Conventional	$\frac{1}{4}\left[\frac{2}{3}x+4\right]-3=\frac{1}{6}x+1-3=\frac{1}{6}x-2$ * Remaining mint in the ball $\frac{2}{3}x+4-\left[\frac{1}{6}x-2\right]=\frac{2}{3}x+4-\frac{1}{6}x+2=\frac{x}{2}+6$ $\rightarrow$ Eswari took $\frac{1}{2}$ of remainder & threw back 2 $\frac{1}{2}\left[\frac{x}{6}+6\right]-2=\frac{x}{4}+3-2=\frac{x}{4}+1$ * Remaining in the ball $\frac{x}{2}+6-\frac{x}{4}-1=\frac{x}{4}+5$ Given $\frac{x}{4}+5=17$ X = 48 Ans $\rightarrow$ 5 (None of these)
IG™	See the statement $\rightarrow$ Sita took $\frac{1}{3}$rd of the mint. It means the bowl should contain the number divisible by 3. In the given options none of them are divisible by 3. So, Option 5 is the correct answer.

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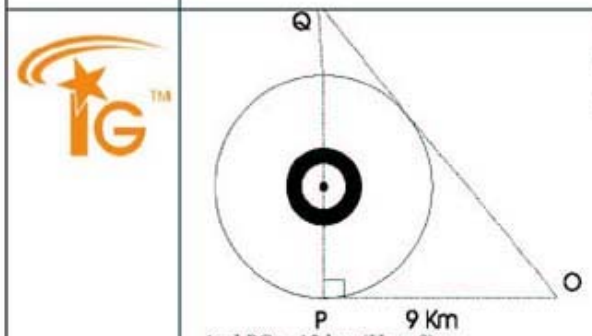
2. A certain city has a circular wall around it, and this wall has four gates pointing North, South, East and West. A house stands outside the city, three kms North of the North gate, and it can be just be seen from a point nine kms East of south gate. What is the diameter of the wall that surrounds the city?

1. 6 km 2 9 km 3. 12 km 4. None of these

Ans 2.

Conventional

Try to solve it.



This is the problem of Vedic triplets,

POQ is a right. Δ

And PQ = 12 km (How ?)

9, 12 & 15 makes right Δ

Dia = 9 Km. (12 – 3)

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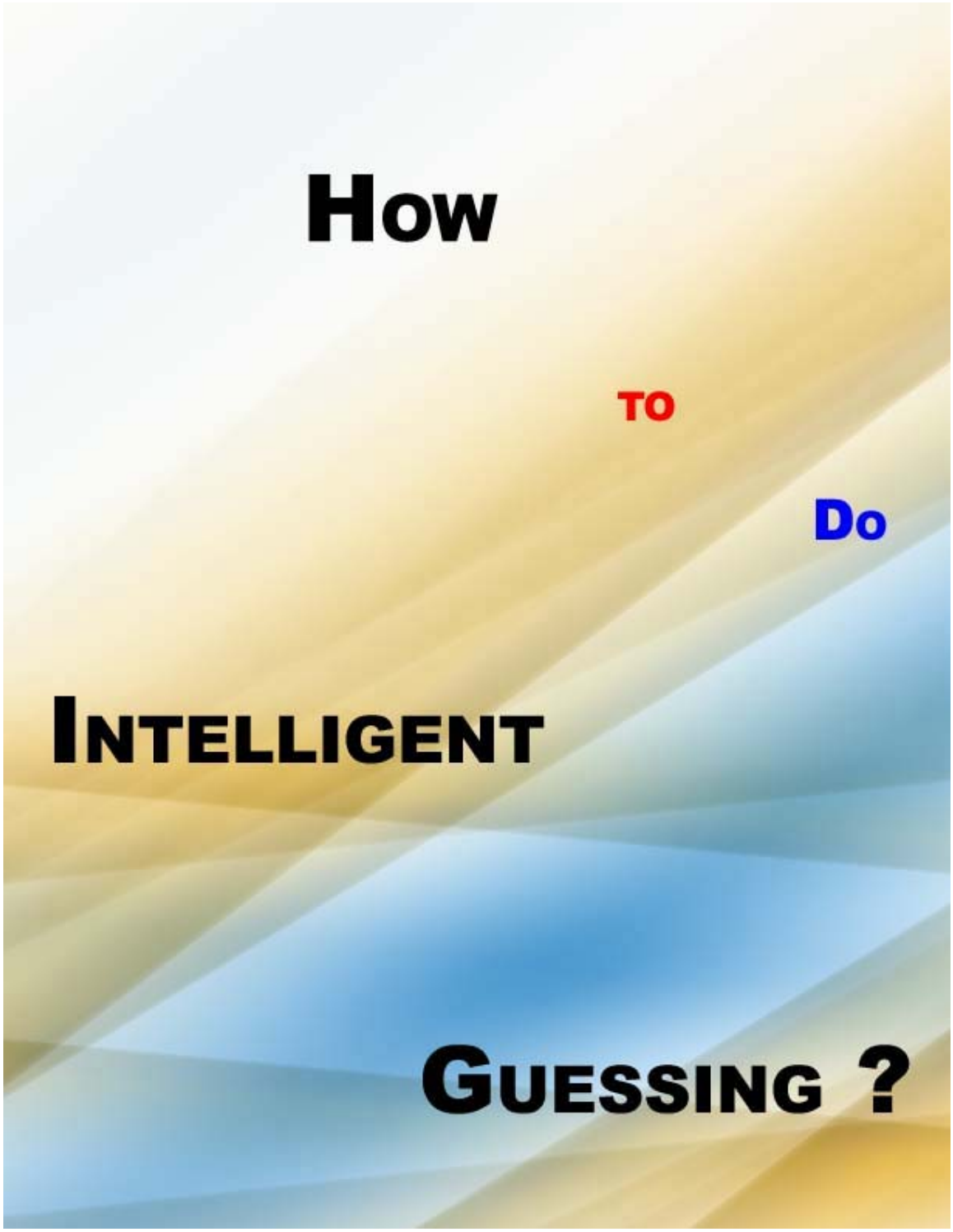

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