

THE BARTON SERIES

# BARTON IN PARTICULAR



BY

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(Ages 8 and over)

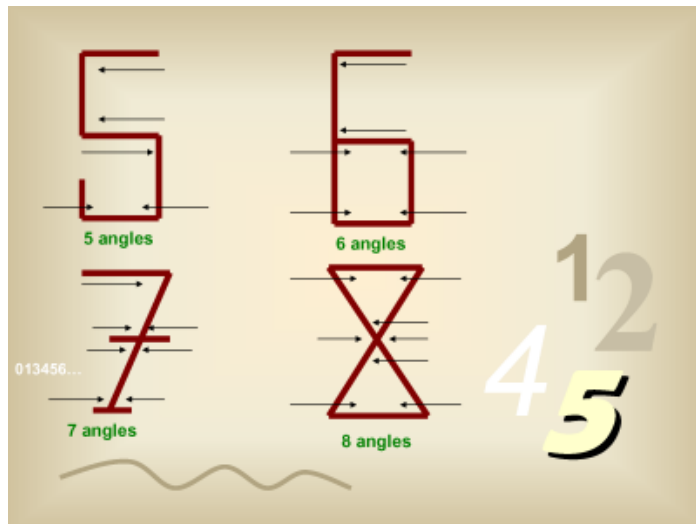
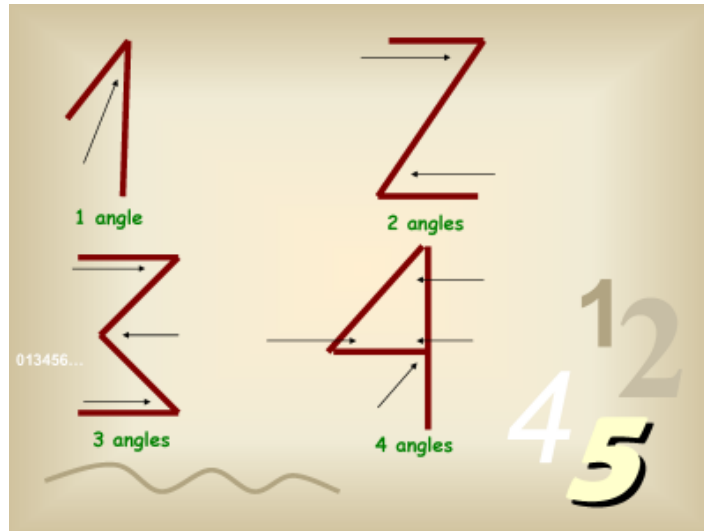
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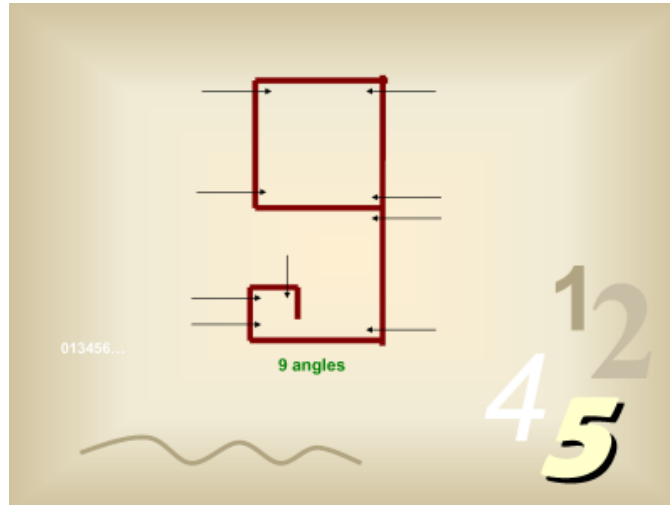
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# Thrill Me

There was a general discussion during class about how the digits in our number system were formed. One student read that numbers were formed in relation to the angles they make when they are written. Supposedly, the number one was so created because only one angle can be seen in its shape. On the other hand, two angles can be seen in the number two and so on.





However, the student noted that the source indicated that the theory was a bit far-fetched concerning some of its explanations and the proposition may not be true.

“Yes, that is correct,” said Miss, “there are quite a few theories on the formation of the digits. However, that theory about a number representing the number of angles in its shape, even though it may not be true, and we are not saying that it is not, does, nonetheless, provide some interesting reading,” she added.

Miss spoke about numbers that held great mystery among many peoples and in many cultures.

Then, Miss stood in front of the class and gave some very interesting facts about numbers.

“The number thirteen is considered unlucky among many people of the world,” she said. “So much is the fear of the number, thirteen, that on some passenger ships and aircrafts, there is no numbering of the thirteenth seat. The numbering goes directly from seat number twelve to seat number fourteen, even though it is, in actuality, the thirteenth seat. There is no floor with a number thirteen on many elevator lifts and many large buildings. Again, these floors may be numbered fourteen, even though they are the 13th floor.



“In fact,” added Miss, “there is a name given to this fear of the number thirteen. It is called, triskaidekaphobia”, she told the class.

“The name was quite a mouthful to pronounce,” said the class. They didn’t even want to think of its spelling.

“In the cricket game, the number eighty-seven is considered an unlucky batting score in the continent of Australia,” continued Miss.

“Perhaps,” said Miss, “this is likely because the number 87 is 13 less than a batsman’s coveted score of 100 or a century in this game.”

Miss even informed the class that some religious faiths would speak of the number 19 with a special mention of reverence.”

The class members were astonished at these pronouncements.

In some games of chance, the number 7 is considered lucky,” added Miss.

“In fact,” said Miss, “there is a game of chance called LUCKY SEVEN.”

“Really,” exclaimed the astounded listeners.

“When you throw two dice, look at all the possible score obtained by checking the total of the scores of each die,” Miss suggested.

“If you did a check of all the different totals that are possible, you shall see the reason why the number 7 is considered lucky,” Miss suggested to her class.

“In many religious circles, the number, 666, is regarded as an evil omen. We can speak of much more such examples of numbers and their associations with good or bad luck,” added Miss.

“Also, there is very much ‘number magic’ in mathematics that has been created with the numbers all through the years. The list is tremendous and they all thrill and fascinate the reader,” said Miss.

The class listened to every word of this fascinating and informative lecture. Miss’ tone of voice was filled with mystery and intrigue.

Barton, in particular, was rather excited, and he had learnt of a few such tricks. Many of these were demonstrated to the class before, and even at a recently held school concert in which he was a star performer.

The class begged Miss to show them a few of these magical tricks with numbers and she willingly obliged.

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“You’ll have to work along with me then,” said Miss.

The members of the class grabbed pencils and paper as requested, and settled down to work along with their Miss.

“Let us think of any three-digit number. Members of the class can choose any such number that they wish. I shall demonstrate the steps with my chosen number,” said Miss.

“I shall pick, for example, the number 752. You must pick your own,” she instructed.

“The first step, reverse the order of your number. In my example, this now becomes 257.”

The class followed along, with each student following with their own choice of number.

“Now we subtract the smaller of these two numbers from the larger. This would be, in my example,  $752 - 257 = 495$ . You must work along with your numbers,” instructed Miss.

All the students heard, understood, and obeyed.

“We reverse this result once again,” commanded Miss.

“In my example, I would get 594.

“Finally, we add these last two numbers. In my example these would be  $495 + 594 = 1089$ . Do the same with your set of numbers. The result will always be the answer of 1089, regardless of the three-digit number that was chosen.”

LET’S TRY AGAIN

Number 189

Reverse this number to get 981

Subtracting the smaller from the larger to get:

$$981 - 189 = 792$$

Reverse the digits of the number obtained to get 297.

Add the two numbers to get  $297 + 792 = 1089$ .

Fabulous! Fantastic! Amazing! The class was rather impressed and could not stop applauding.

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“Here’s an interesting play with the numbers,” said Miss, after the applause had finally died down.

The number 142 857 when multiplied by any whole number from 1 to 6, will contain the same digits as the number and the order of these digits remain the same in the sense that the same digits follow each other.

$$142\ 857 \times 1 = 142\ 857$$

$$142\ 857 \times 2 = 285\ 714$$

$$142\ 857 \times 3 = 428\ 571$$

$$142\ 857 \times 4 = 571\ 428$$

$$142\ 857 \times 5 = 714\ 285$$

$$142\ 857 \times 6 = 857\ 142$$

However, when 142 857 is multiplied by 7, the result is 999 999.

Once more the magic of numbers astonished the class. Many members were anxious to demonstrate their newly acquired knowledge to their family members on that very evening.

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“Let’s try an interesting one with your age,” Miss said.

“Take your age and double the figure.

Example: I am 12 years old

When doubled we get  $= 12 \times 2 = 24$

Add 5 to this number. This will give  $24 + 5 = 29$

Now we multiply the number by 50 and this will give  $29 \times 50 = 1\ 450$

Now you add the number of coins that you have in your pockets. If you have none then add none or zero, and which will, of course, keep your score the same. Today, I have 3 coins, so I add  $1\ 450 + 3$  to get 1 453.

Finally, subtract 250. We shall get  $1\ 453 - 250 = 1\ 203$



The first two digits will be your age and the last two digits will be the number of coins you have. See the first two digits together is 12, which is your age, and see the last two digits together are 03, which is the number of coins that you have in your pocket.”

The class was spellbound. Barton wrote down each step as he planned to create his own ‘magic show’ later that evening with the Sandiford family. He would put on his magic robe which he still had from the performance at the school concert.

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Miss took out a die from the cupboard and had a volunteer come in front of the class to assist. Malaika was prompt in taking up the offer. Her love for mathematics and numbers could only be rivalled by Barton.

“Let us toss a die three times and then we shall tell the numbers which appeared and in the correct order,” claimed Miss.

Malaika made the first throw and got 4.

“Now multiply this number by 2 and then add 5 to this result.

This would give  $(4 \times 2) + 5 = 8 + 5 = 13$

Next, we multiply the number from above by 5 to give us  $13 \times 5 = 65$

NOTE carefully the number 65.”

Both the class and Malaika obeyed.

“Now Malaika, let us toss the die a second time.”

Malaika did so and got the number 5.

Miss now gave her instructions.

“Let us add this score of 5 to the previous total that we had noted.

We shall now get  $65 + 5 = 70$

This total we now multiply by 10 to get  $70 \times 10 = 700$

Let us now note the number 700.”

Again the entire class obeyed by writing down the number.

“Malika, it is now time for the third and final toss,” said Miss.

Malika tossed the die for the third and last time and obtained the number 2.

“Now,” said Miss, “let’s work again.”

“Add 2 to the previous total that we got,” she instructed.

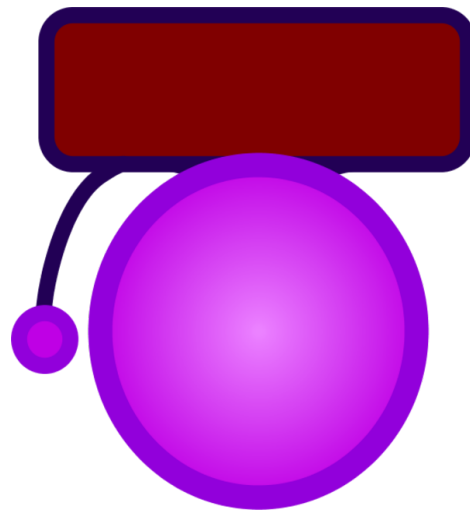
We would now get  $= 700 + 2 = 702$ .”

“Now class,” said Miss, “we subtract 250 from this total to get  $702 - 250 = 452$ .”

“Let us have a look at what we got,” said Miss.

“The numbers 4, 5, and 2 are the scores of the die and they are in the correct order in which the numbers were obtained.” showed Miss.

The class loved the small demonstration and gave Miss a tremendous round of applause. It was one of the times when the school’s closing bell sounded and none of them was anxious to leave. It was as if they were all asking for more.



All members of the class seemed rooted and fascinated by the mystery and magic of numbers and their special little world.