Ancient China

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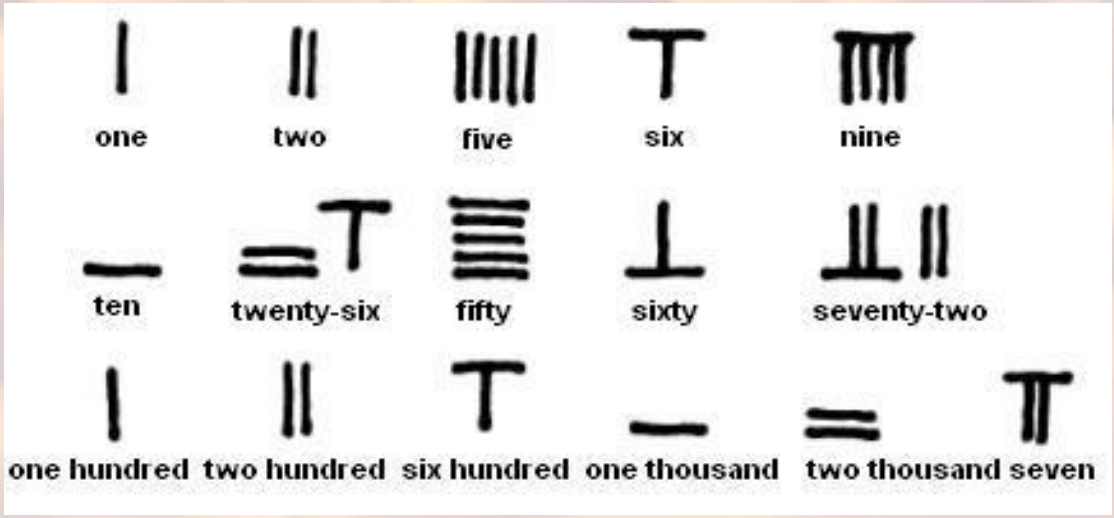
Ancient China

- Three main causes for excellence.
  - What the slaves and domestics had to learn the higher nobles had to learn as well
  - Simplicity and elegance of their language
  - Highly developed written language

Chinese Numerals

Arabic numerals	Chinese Name
0	ling
1	I
2	Erh
3	San
4	Szu
5	Wu
6	Liu
7	Ch'i
8	Pa
9	Chiu
10	Shi

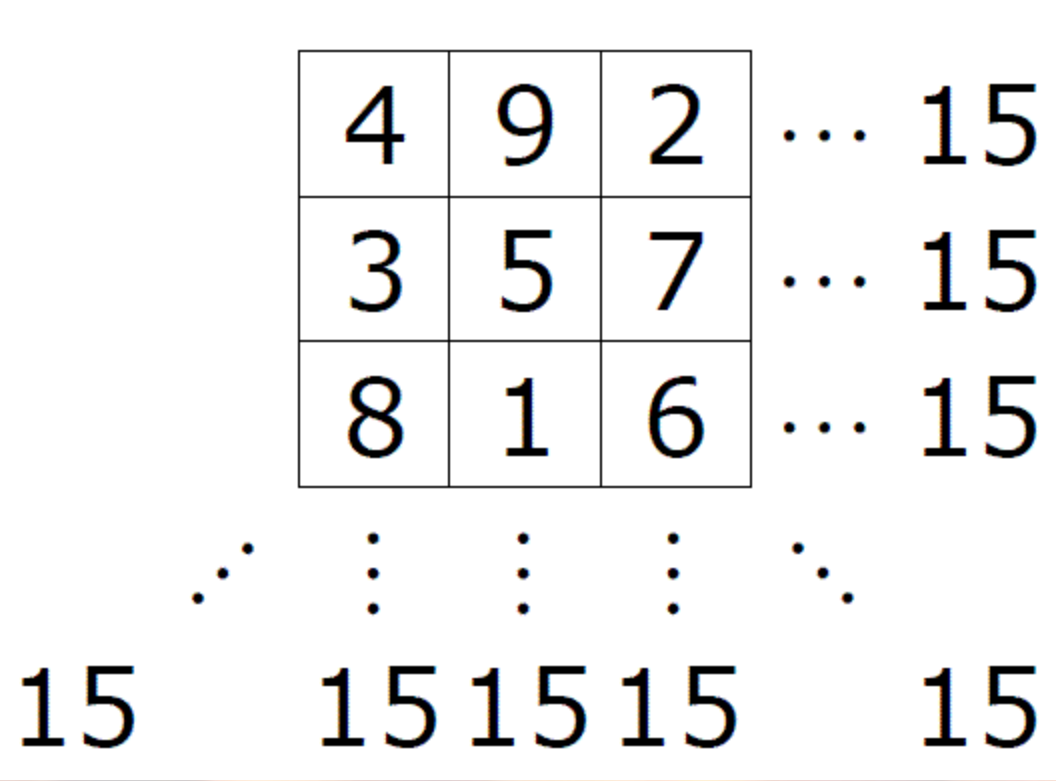


The Counting Board

- Counting Sticks
  - Red was positive
  - Black was negative
- Full set contained 271 sticks

MAGIC SQUARES

- The constant sum in every row, column and diagonal is called the magic constant or magic sum, *M*.



TRY THIS

		8		2		5		
				1			9	
		4	8			2		6
	3		6				2	
		6				1		
	7				9		5	
1		3			2	4		
	6			7				
		5		8		3		

Answer

9	1	8	3	2	6	5	4	7
6	2	7	4	1	5	8	9	3
3	5	4	8	9	7	2	1	6
5	3	9	6	4	1	7	2	8
2	4	6	7	5	8	1	3	9
8	7	1	2	3	9	6	5	4
1	8	3	9	6	2	4	7	5
4	6	2	5	7	3	9	8	1
7	9	5	1	8	4	3	6	2

Two Equations, Two Unknowns

- Two known quantity facts:
  - Guests used 52 dinner plates
  - Game with men and women paired off
- *M* is for men and *W* is for women
- *R* is for rice (2) , *S* is for soup (3), and *P* is for pork (4)
- ½(m + w) + 1/3(m + w) + ¼(m + w) = 52 = 13/12
  - So, number of guests is 1/12 less than number of dishes
  - Number of guests = 48 men and women
- M + W = 48, M = W
  - 2M = 48
  - M = 24, W = 24
- "Rhetorical Algebra"

Indeterminate Equations

- Four cash for cock, five for hen, and one for chicken
- Cook has 100 cash

- Algorithm: Add one cock and one chicken for each hen taken away

MODULAR ARITHMETIC

- Three men grow and sell rice in different markets at different prices, totaling 804
  - Cattie ~ approximately 1 lb 5oz
- A has remainder 2, B has remainder 3, and C remainder 2
- 3 A units = 5 B units = 7 C units
- Once 23 is reached, then can add sum of multiple repeatedly
- 3 x 5 x 7 = 105
  - 23 + 105 = 128
  - 128 + 105 = 233
  - 233 + 105 = 228
- 338 x 3 = 1014

	A	B	C
Divisor	3	5	7
Remainder	2	3	2
1st Guess	2	3	2
2nd Guess	5	8	9
3rd Guess	8	13	16
4th Guess	11	18	23
5th Guess	14	23	
6th Guess	17		
7th Guess	20		
8th Guess	23		

Works Used

- The Story of Numbers
- Google Images