

Pseudo Randomness in Pi

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Abstract

The purpose of this paper is to show how a Pseudo Random pattern appears in Pi.

I. Pi

3.14, 159, 2653, 58979, 323846, 2643383, 27950288, 419716939,
 9375105820, 97494459230, 781640628620, 8998628034825, 34211706
 798214, 808651328230664, 7046938409550582, 23172535940812848, 111745028410270193,

II. Table

Nth Series	Digits	Digits Added & Sqrt	Sqrt Pattern	Driedel	Sum of Nth Series	Nth Series
1	3	1.7320508075688772	1	1		1
2	14	2.23606797749979	2	2		2
3	159	3.872983346207417	3	3		3
4	2653	4.0	4	4		4
5	58979	5.656854249492381	5	5		5
*6	323846	5.0990195135927845	5	6:1		6
*7	2643383	5.385164807134504	5	2	N6+N7=13	7
8	27950288	6.4031242374328485	6	3		8
9	419716939	7.0	7	4		9
10	9375105820	6.324555320336759	6	5		10
*11	97494459230	7.483314773547883	7	6:1		11
*12	781640628620	7.0710678118654755	7	2	N11+N12=23	12
13	8998628034825	8.48528137423857	8	3		13
14	34211706798214	7.416198487095663	7	4		14
15	808651328230664	7.874007874011811	7	5		15
*16	7046938409550582	8.660254037844387	8	6:1		16
*17	23172535940812848	8.48528137423857	8	2	N16+N17=33	17
18	111745028410270193	7.483314773547883	7	3		18

*Pseudo Randomness within Pi.

III. Pseudo Random Patterns

Patterns occurs at the 6th &7th series,11th & 12th series and 16th&17th series. The repetition occurs are 5&5, 7&7 and 8&8. The link between patterns occurs when one adds the N of the series. At the 6th &7th series,11th & 12th series and 16th&17th series is that if one adds 6th &7th series one gets 13, and if one adds the 11th and 12th series one gets 23. Last if one adds the 16th and 17th series one get 33. (see table above)

IV. Conclusion

The reason there are no repeating numbers in Pi is because there is a Pseudo Random process in Pi. The Pseudo Random Process causes no repeating numbers in Pi. As in the prime numbers $A+B \pm 1=C$ there is a Pseudo Random Process in Pi. In Pi, characteristics of the Pseudo Random Process can be seen by taking the digits in Pi and doing a progression which starting with 3 take its square root. Then take the next two digits, add them up and take the square root. After progressing the patterns appear. At the 6th &7th series,11th & 12th series and 16th&17th series.