Fun in Mathematics

Compiled by Purnendu Karmakar*

1. Time to count a billion

   If a person counts at the rate of 100 numbers a minute, and keep doing for eight hours a day, five days a week, it would take little over 4 weeks to count a million and just over 80 years to reach a billion.

2. The number 142857

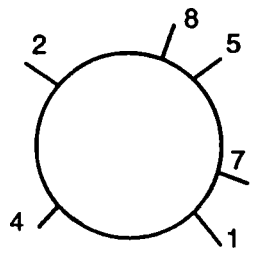
   142857 x 2 = 285714

   142857 x 3 = 428571

   142857 x 4 = 571428

   142857 x 5 = 714285

   142857 x 6 = 857142



3. The Sum of a three number square in Calendar.

   Let three successive dates from a calendar be picked up. The numbers picked up should start from a column starting with the least number. Now, the sum of the digits of the square formed as shown below will be found simply by multiplying the sum of the smallest number and 8 with 9.

S	M	T	W	Th	F	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

The sum is (5+8) 9 = 117

4. Fun with 37

   37 x 3 = 111

   37 x 6 = 222

   37 x 9 = 333

   37 x 12 = 444

   37 x 15 = 555

   37 x 18 = 666

   37 x 21 = 777

   37 x 24 = 888

   37 x 27 = 999

5. Magic of nine

   222222222 x 9 = 1999999998

   333333333 x 9 = 2999999997

   444444444 x 9 = 3999999996

   555555555 x 9 = 4999999995

   666666666 x 9 = 5999999994

   777777777 x 9 = 6999999993

   888888888 x 9 = 7999999992

   999999999 x 9 = 8999999991

6. Fun with digits

   Start with the sequence of non-zero digits 1 2 3 4 5 6 7 8 9. The problem is to place plus or minus signs between them so that the result of thus described arithmetic operation will be 100.

   One solution is

   12 + 3 – 4 + 5 + 67 + 8 + 9 = 100,

   another is

   123 + 4 – 5 + 67 – 89 = 100.

   Can you find any other solution?

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