

Imanol's numbers

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Imanol's numbers are those that the sum of their digits is 2, 3, 5, 6, 8 or 9. For example, let's see if these numbers are Imanol's numbers:

- **41:** $4+1=5$ **YES**
- **83:** $8+3=11 \Rightarrow 1+1=2$ **YES**
- **19:** $1+9=10 \Rightarrow 1+0=1$ **NO**
- **62:** $6+2=8$ **YES**
- **16:** $1+6=7$ **NO**

And all the Imanol's numbers are divisible in $\frac{x^2+x}{3}$. For example:

$$\frac{41^2 + 41}{3} = \frac{1722}{3} = 574$$

$$\frac{81^2 + 81}{3} = \frac{6642}{3} = 2214$$

However, the numbers that are not Imanol's numbers are not divisible. For example:

$$\frac{19^2 + 19}{3} = \frac{380}{3} = 126, \hat{6}$$

So, $x^2 + x$ is multiple of 3 if x is an Imanol's number.