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Trigg

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1 page

In the Arabic notation of our decimal system, the digits 0, 1, 3, and 8 are reflectable. No integer can begin with zero. Consequently, the number of reflectable integers having k digits is $3 \cdot 4^{k-1}$, $k = 1, 2, 3, \dots$. In Table 2, the number of reflectable integers is compared to the number of reflectable primes. The percentage of reflectable integers that are prime steadily decreases as k increases.

Table 2. Reflectable Primes vs. Reflectable Integers

Digits (k)	Number of		Ratio B/A
	Reflectable Integers (A)	Reflectable Primes (B)	
1	3	1	0.333
2	12	4	0.333
3	48	12	0.250
4	192	28	0.146
5	768	97	0.126
6	3072	282	0.092
7	12288	1003	0.082
Total	16383	1427	

The smallest reflectable prime is 3, and the largest $< 10^7$ is 8888813. Among the 1427 reflectable primes $< 10^7$ there are various sub-sets with members having other common characteristics, such as the 37 *palindromic* reflectable primes in Table 3. Buried in this sub-set there are five triads which lead one to wonder if they start longer prime sequences, namely: 101, 31013, 3310133; 131, 13331, 133331; 181, 13831, 1338331; 313, 30103, 3001003; and 131, 10301, 1003001. However, the next member of the first four sequences is composite. In the last case, with general term $10_k 30_k 1$, $k = 0, 1, 2, \dots$, the only other primes $< 10^{26}$ are given by $k = 3$ and $k = 10$ [1].

Table 3. Palindromic Reflectable Primes

3	10301	30803	1180811	1338331	3083803
11	11311	31013	1183811	1831381	3103013
101	13331	38083	1300031	1880881	3181813
131	13831	38183	1303031	1881881	3310133
181	18181	1003001	1311131	1883881	3331333
313	30103	1008001	1333331	3001003	3380833
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