

Problem of the week

Find the least number whose last digit is 7 and which becomes 5 times larger when this digit is carried to the beginning of the number.

Solu:

The required number be ...abc7 .

Since it is given that $5(\dots abc7) = 7\dots abc$

We get that $c=5$. On putting value of c back in the equation we have

$$5(\dots ab57) = 7\dots ab5$$

We get $b=8$.

In this process we further get 7 for the first time.

This way the required number worked out is 142857