Problem 4. «Primes»

Marcus invented a new cryptosystem. To start to work with it one should choose two big prime numbers p and q, then calculate $n = p \cdot q$ and $m = p + q$. The number $n \cdot m$ will be used in the cryptosystem.

While testing the system Marcus has noticed that for the chosen numbers p and q the resulting number $n \cdot m$ ends with 2023. Is this possible?

2 users
0 information about the key
2 prime numbers
3 operations

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