



Problem 2. «RSA numbers»

RSA is one of the most popular cryptosystems with a public key. We know that it operates with two big prime numbers p and q that should be kept in secret by each user.

Eve is a malefactor that likes to steal secret RSA parameters of users and then offers to buy them via the Internet. Today she offers to buy the new pair of primes p and q satisfying the following relation:

$$p^{4x} + 4 \cdot 2015 = q^{4y} \text{ for some natural numbers } x \text{ and } y.$$

Should the clients of Eve buy these numbers?