S-prime numbers

NA3_RT14

Let S be the set of all positive integers that are 1 more than a multiple of 10, so $S = \{1, 11, 21, 31, 41, \ldots\}$.

We say that an element x of the set S is *S-prime* if $x > 1$ and whenever the elements a and b of the set S satisfy $ab = x$ we have $a = 1$ or $b = 1$.

Are there distinct S-prime numbers a, b, c and d such that $ab = cd$?

Relevance

NA3 What are highest common factors and why do they matter?