

## Some of my elementary original problems

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E11. Find prime numbers such that

E10. Let be integer. Prove that among the elements of the set

one can find the fourth power of an integer.

E9. The difference of two positive integers is equal to Find them, knowing that the first number is a power of six and the second one is prime.

E8. Let be integers, any two different, such that Prove that

E7. Find all strictly increasing functions such that divides , whenever

E6. Prove that the number can be written as the sum of two non-zero perfect squares in at least four ways.

E5. Let be real numbers such that and Prove that

E4. Let be prime numbers such that

Prove that

E3. Find all prime numbers such that

E2. Let be real numbers such that

Prove that

E1. The length sides of a triangle are

positive integers such that

Prove that triangle is  
isosceles, whose perimeter is equal to 2013.