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Fermat's theorem. Proof by 2 operations

The essence of the contradiction. The hypothetical Fermat's equality is contradictory between the second digits of the factors of the number *A*.

All calculations are done with numbers in base n, a prime number greater than *2*.
The notations that are used in the proofs:
A', A'' – the first, the second digit from the end of the number *A*;
A_2 is the two-digit ending of the number *A* (i.e. $A_2=A \bmod n^2$);

Consider the Fermat's equality in the base case (its properties 2°-3° are proved here: http://vixra.org/abs/1707.0410) for co-primes positive *A*, *B*, *C*; $A'\neq 0$, prime n, n>2:

1°) $A^n=C^n-B^n$ $[=(C-B)P]$, where (as is known)

2°) $A'\neq 0$, $C-B=a^n$, $P=p^n$, $A=ap$, $p'=1$, $a'\neq 0$, $a^{n}{}'=a'$, $a'^{n-1}{}'=1$ (Fermat's small theorem);

3°) $(A+B-C)_2=0$, from here

3a°) $(ap)_2=a^n{}_2$ and therefore

3b°) $p_2=a^{n-1}{}_2$.

4°) If $p''=0$, then we multiply term by term equality 1° by such g^{nn}, that $p''\neq 0$.

Properties 2°-3° are preserved, and we leave the notation of the numbers as before.

And now **the proof itself FLT**.

We represent the endings a a_2 and p_2 in the form:
$a_2=(xn+a'^n)_2$ and $p_2= p''n+1$, where *x* and *y* are digits.
First we substitute these values of the endings in the left-hand side of the equality 3a°:

5°) $[(xn+a'^n)(p''n+1)]_2=a'^n{}_2$, from here

5a°) $(a'^n p''n+xn)_2=0$, or (see 2°) $a'p''+x=0$ (mod *n*).

Now, we substitute the value of $a_2$in the right-hand side of the equality 3b°:

6°) $(xn+a'^n)^{n-1}{}_2=[(n-1)xna'^{n-2}+1]_2= (-nxa'^{n-2}+1)_2=(-nxa'^{n-1}/a'+1)_2$. From 3b° we have:

6a°) $-xa'^{n-1}/a'+p''=0$ (mod n), or $-xa'^{n-1}+a'p''=0$ (mod n), or $-x+a'p''=0$ (mod n),

It follows from 5a° and 6a° that x=y=0, which contradicts to 2° and 4°. From this contradiction follows the truth of the FLT.

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