

Note on "abab number issue"

If an integer, n , could be factorized as a series with i entries, then,

- if i is odd, it will construct a bunch of composite numbers with symmetry,

- e.g., if p has primes a, b, c, d, e :

- 1

- 1-prime composites: 5

- 2-prime composite: 10

- 3-prime composite: 10

- 4-prime composite: 5

- n itself

- Clearly, the amount composites is even.

- if i is even, then the total amount is depended on the middle row: and the formula is $(n, n/2)$, it is also an even number.

- Consider the case that some prime factors are identical - the formula of amount shall be generalized as $f(n,k) = (n n/2) - f(k) - k$, where k is free factors' amount, and a free factor is at least equal to one of the other factors.

I checked some of k , and the corresponding $f(k)$ is always even, so the $f(n,k)$ is also an even number. - I haven't formally prove it, maybe you could provide me a brief instruction.