Theorem 1. *Let $n \in N$. If $2^{2^n}+1$ is not prime, then for any number of the form 2^{2^n+a}, where $a \in N$, $a < 2^n$ exists exactly 2^t natural numbers m such that $\varphi(m) = 2^{2^n+a}$, where t is amount of prime Fermat numbers lesser than $2^{2^n}+1$.*

Example 2. *For a non-prime Fermat number $2^{32}+1$ number of preimages for subsequent numbers of form 2^{2^n+a}, $a \leq 32-1$ is equal to 2^{32}.*

Theorem 2. *If $\varphi(m) = 2^n$, then $m = 2^s p_1 p_2 ... p_x$, where p_i are different Fermat numbers, $s \in N$.*

Theorem 3. *Right line with a positive coefficient, carried through the beginning because of the origin of the coordinates, is not the lower bound of the Euler function graph.*

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The Aumann-Pettis-Sugeno integral for vector multifunctions relative to a vector fuzzy multimeasure

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In this paper, we define and study the general Aumann-Pettis-Sugeno integral for a vector multifunction relative to a vector fuzzy multimeasure, both taking values in a locally convex space X, ordered by a closed convex pointed cone X_+, with nonempty interior. For the selections of the multifunctions we use the general Pettis-Sugeno integral. Several classic properties of this integral and some comparative results are established.