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CONTENTS

Abstract: In [9] Makowski and Schinzel conjectured that the inequality $(^*)\frac{\sum(\varphi(n))}{n} \geq \frac{1}{2}$ holds for all positive integers $n \geq 1$. In this paper we give various sufficient conditions for a positive integer n to satisfy $(^*)$.

Abstract: In this paper we give a proof of the following theorem:

Let $\varphi(x_1, x_2, \ldots, x_k)$ be a continuous real function on $\mathcal{R}^k$ which is nondecreasing in each variable and increasing in the first one and $\varphi(x, x, \ldots, x) \leq x$, for every $x \in R$. If (a_n) is a bounded sequence which satisfies the inequality

$$a_{n+k} \leq \varphi(a_{n+k-1}, a_{n+k-2,\ldots,}a_n), \text{ for } n \in N \cup \{0\}\,.$$

then it must be convergent.

Abstract: Let A be a cross-convolution and define the functions f_A and f^* by $f_A(n) = \sum_{d \epsilon A(n)} g(d)(n/d)^r$ and $f^*(n) = \sum_{d \backslash n, (d,\, n/d)=1} h(d)(n/d)^s$, where g and h are bounded arithmetical functions, g is multiplicative and $r, s > 0$. In this paper we establish an asymptotic formula for $\sum_{n \leq x} f_A(n) f^*(n)$ which extends and improves known results.

Abstract: Sufficient conditions have been obtained for oscillation of solutions of a class of linear hyperbolic differential equations of neutral type with variable coefficients and Neumann boundary conditions. Unlike earlier studies, the problem cannot be reduced to a neutral differential inequality which does not admit a positive solution.

Abstract: In this paper we prove a fixed point theorem for nonexpansive multivalued mapping in a complete metric space.

Abstract: For families of meromorphic functions in a domain, three criteria for normality are proved in this paper.

Abstract: In this present paper, K denotes a complete non-trivially valued field. If $A = (a_{nk}), a_{nk} \in k, n, k = 1, 2, \ldots$ is an infinite matrix, necessary and sufficient conditions for $A : c_0(p) \longrightarrow Q, A : c(p) \longrightarrow A, A : l_\infty \longrightarrow Q$ are obtained.

Abstract: We apply the KKM-map principle to obtain some best approximation theorems of Ky Fan type for both of single valued and multivalued continuous functions on closed convex subsets of a topological vector-space, Especially, in the setting of reflexive Banach space. Kapoor's result [5] is generalized.

Abstract: In this paper defining cd-spaces in terms of dense sets, we have characterized cd-spaces and studied different properties of such spaces. In fact these spaces have been connected with spaces like resolvable, irresolvable, open hereditarily irresolvable, connected, etc.

Abstract: A fixed point theorem is proved in a complete metrically convex metric space. Our result generalizes theorems of Assad [3] and Chatterjea [4].

Abstract: A common fixed point theorem involving six mappings is proved in compact metric spaces which is also used to prove yet another fixed point theorem concerning best approximation. In process results due to Brosowski, Singh, Hicks-Humphries

and Saheb et al. are generalized and improved.

Abstract: Some characterizations of compact and invertible weighted composition operators on the space of continuously differentiable functions are obtained in this paper.

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