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CONTENTS

Abstract: In this paper we prove five of Ramanujan's eta-function identities via other eta-function identities.

Abstract: Converse duality is proved, for constrained minimization problems where the functions have Lipschitz first derivatives. Both the Wolfe dual and the Mond-Weir dual are considered, and also an intermediate dual.

Abstract: The object of this paper is to study null geodesic collineation in a pseudo conformally symmetric space. It is proved that if a pseudo conformally symmetric space of dimension $n(n \geq 4)$ admits a null geodesic collineation, whose associated vector is non-null and orthogonal to the associated vector of the null geodesic collineation, then the space is either conformally flat or the transformation is affine.

Abstract: Fundamental inequalities, such as Čebyšev's integral inequality for synchronous (asynchronous) mappings, Holder's inequality and Grüss's integral inequality are applied to the estimation of moments and moment ratios of the beta and gamma random variables.

Abstract: Here we give short proofs of the well-known o- and O-Tauberian theorems for the Borel method. While the proof of the o-result is completely elementary, we use Vitali's theorem and some asymptotic analysis to derive the O-theorem.

Abstract: In this note we consider the second fundamental form b of a spacetime embedded into E_5. It is shown that the characteristic polynomial of b allows to obtain an identity which relates $b$with the intrinsic geometry of the R_4 under analysis.

Abstract: Concerning the integrability of quaternionic almost Hermitian manifolds, the result that any quaternionic almost Kähler manifolds is a quatertnionic Kähler manifold due to N. J. Hitchin is known. In this paper, we give two generalizations of this result.

Abstract: Dontchev et al. [9] have introduced the notion of regular set-connected functions and investigate the relationship among regular set-connected functions and some related functions.

Abstract: It is shown that any Einstein-Maxwell spaceline of class one embedded into E_5 should have a nonvanishing trace for the second fundamental form.

Abstract: In this work considering the class of univalent functions defined by the conditions $\left|\frac{z^2f'(z)}{f^2(z)}-1\right|<1, |z|<1$, where $f(z)=z+a_2z^2+\cdots$ is analytic in the unit disc $U=\{z:|z|<1\}$, we obtain some results for the univalence of certain integral operators.

Abstract: Extending earlier work, we offer a general framework for the construction and analysis of weak topologies for spaces of Banach space-valued Borel measures on a polish space. Emphasis is placed on connections between these weak vectorial topologies and the topology of the underlying space. For a certain class of Banach

spaces, a reasonable characterization of sequentially sets of measures is obtained.

Abstract: The following two problems are discussed in this paper: Given two homomorphisms of abelian groups, $\phi : A' \longrightarrow A, \Psi : B' \longrightarrow B$, under what conditions is the kernel of the induced map $\phi \otimes \Psi : A' \otimes B' \longrightarrow A \otimes B$ generated by monomials? And assuming ϕ and Ψ to be monic, under what conditions is the map $\phi \otimes \Psi$ monic?

Abstract: A slant Toeplitz operator A_φ with symbol φ in $L^\infty(\partial D)$ is an operator whose representing matrix $M = (a_{ii})$ is given by $a_{ij} = \left\langle \varphi, z^{2i_j} \right\rangle$ where $\langle ., . \rangle$ is the usual inner product on $L^2(\partial D)$. In addition to other algebraic properties, it is proved that a non-zero hyponormal operator can not be a slant Toeplitz operator.

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