J. of Ramanujan Society of Mathematics and Mathematical Sciences
Vol. 9, No. 2 (2022), pp. 83-96

ISSN (Online): 2582-5461

ISSN (Print): 2319-1023

HEINE'S TRANSFORMATION FORMULA THROUGH q-DIFFERENCE EQUATIONS

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(**Received:** *Feb. 13, 2022* **Accepted:** *Apr. 25, 2022* **Published:** *Jun. 30, 2022)*

Abstract: In this paper, we give an extension of the first Heine's transformation formula using q-difference equations. Further, we discussed a Ramanujan's theta function $\psi(q)$ and deduced it as a particular case.

Keywords and Phrases: q-Difference operator; q-Binomial theorem; q-integral identities; q-Difference equations, Ramanujan theta function.

2020 Mathematics Subject Classification: 05A30, 11B65, 33D15, 33D60, 39A13.

1. Introduction

Chen and Liu [12] developed an interesting method of deriving hypergeometric identities by parameter augmentation. This method means that a hypergeometric