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A “four integers” theorem and a “five integers” theorem.

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Summary: The recent exciting results by Bhargava, Conway, Hanke, Kaplansky, Rouse, and Schneeberger concerning the representability of integers by positive integral quadratic forms in any number of variables are presented. These results build on the earlier work of Dickson, Halmos, Ramanujan, and Willerding on quadratic forms. Two results of this type for positive diagonal ternary forms are proved. These are the “four integers” and “five integers” theorems of the title.

Classification: F65

Keywords: symmetric matrix; universal positive quaternary quadratic forms; ternary forms

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