

Hence the C^* -algebra $\pi_{\tilde{x}}(A)$ and so A have a type III-factor $*$ -representation.

This completes the proof.

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SOME UNSYMMETRIC COMBINATORIAL NUMBERS

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By an n -configuration we shall mean an abstract set of n elements, together with the set of all unordered pairs of distinct elements from the set. It is convenient also to use quasi-geometrical terminology such as *vertex* for element, *edge* or *side* for a pair (2-tuple), *triangle* as well as triple (3-tuple) for a 3-subconfiguration, and so on.

The Ramsey number $N(p, q, 2)$ (see [3, pp. 38–43], or [2, pp. 61–65]), for two kinds h, v of pairs (or two “colors of edges”), is the smallest integer such that if $n \geq N(p, q, 2)$, then any n -configuration is sure to contain *either* an h p -tuple (a p -tuple all of whose edges are h) *or* a v q -tuple. Call a p -tuple all of whose edges are alike (h or v) a *like* p -tuple. We introduce, and partially determine the values of, new analogous combinatorial numbers $K(p, q, 2)$, $M(p, q, 2)$, and $V(p, q, 2)$.

DEFINITIONS. The number $K(p, q, 2)$ is the smallest integer such that if $n \geq K(p, q, 2)$, then for each vertex, the configuration is sure to contain *either* a like p -tuple containing the vertex, *or* a like q -tuple not containing the vertex. For three kinds r, g, v of edges, $M(p, q, 2)$