

Answer on Question #78423 – Math – Linear Algebra

Question

If a matrix has n^2 entries, where $n \in \mathbb{N}$, then it is a square matrix. Is it true or false? Justify your answer.

Solution

False. The number of entries is equal to the number of columns (c) multiplied by the number of rows (r):

$$N = c * r$$

Let $N = n^2 = c * r$.

For example, if $c = 2, r = 8 \rightarrow N = 16 = 4^2$

and the matrix is not a square matrix.