

Re: e-permutation tensor

Source: <http://sci.tech-archive.net/Archive/sci.math/2005-04/msg00513.html>

- *From:* ol3@xxxxxxxxxx (Oscar Lanzi III)
 - *Date:* Sun, 3 Apr 2005 07:31:27 -0500
-

I'm familiar with the identity

$$e^{ijk}e^{klm} = \delta^{il}\delta^{jm} - \delta^{im}\delta^{jk}$$

where the indices go from 1 to 3. It's proven using the fact that only one value of k contributes in a nonzero way to the summation over k on the left side. (Formally we may say "Let k be an element of $\{1,2,3\} \setminus \{i,j\}$, where that difference has only one element whenever the i and j are distinct.")

But I'm lost when we allow indices to go to 4. How is an argument of 4 handled in a THIRD-order permutation tensor?

--OL

-
- *Follow-Ups:*
 - ◆ [**Re: e-permutation tensor**](#)
 - ◇ *From:* tristan . buckmaster
 - *References:*
 - ◆ [**e-permutation tensor**](#)
 - ◇ *From:* tristan . buckmaster
 - Prev by Date: [**Quaternions : n-Space Basis Matrices**](#)
 - Next by Date: [**Re: arithmetic problem**](#)
 - Previous by thread: [**e-permutation tensor**](#)
 - Next by thread: [**Re: e-permutation tensor**](#)
 - Index(es):
 - ◆ [**Date**](#)
 - ◆ [**Thread**](#)