

## MEEG 4703 Quiz T1.073

1. (10 pts) Derive the following transformation law for first-order Cartesian tensors:

$$A'_i = a_{ij} A_j$$

2. (10 pts) Making use of the laws of transformation for Cartesian tensors, prove the orthonormal condition that

$$a_{ki} a_{kj} = \delta_{ij}$$

3. (10 pts) Describe the *summation convention* and *range convention*. Give an example for each of these two conventions.
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