

1. Translate the suffix notation $\delta_{ij}c_j + \epsilon_{kji}a_k b_j = d_l e_m c_i b_l c_m$ into ordinary vector equation.
2. Use suffix notation to show that the $n \times n$ identity matrix commutes with any $n \times n$ matrix with respect to matrix multiplication.
3. Compute $\epsilon_{ijk}\epsilon_{ijk}$
4. Use Suffix notation to show $\vec{a} \cdot (\vec{b} \times \vec{c}) = -\vec{c} \cdot (\vec{b} \times \vec{a})$
5. Using suffix notation to find an alternative expression for $(\vec{a} \times \vec{b}) \cdot (\vec{c} \times \vec{d})$ which doesn't involve cross product.
6. If A, B are two $n \times n$ matrices, use suffix notation to prove $(AB)^T = B^T A^T$, where T means transpose