1. Show that
\[
T^{\mu\sigma}_{\lambda;\rho} = \frac{\partial}{\partial x^\rho} T^{\mu\sigma}_{\lambda} + \Gamma^{\mu}_{\rho\nu} T^{\nu\sigma}_{\lambda} + \Gamma^{\sigma}_{\rho\nu} T^{\mu\nu}_{\lambda} - \Gamma^{\nu}_{\lambda\rho} T^{\mu\nu}_{\kappa}
\]
is a tensor for general coordinate transformations.

2. Prove that the Leibniz rule holds for covariant differentiation of a product of two tensors:
\[
\left( A^\mu_{\nu} B^\lambda \right) ;_\rho = A^\mu_{\nu;\rho} B^\lambda + A^\mu_{\nu} B^\lambda ;_\rho
\]