Homework problems #7

1. Show that the Riemann tensor transforms as a tensor.

2. Show that
$$\frac{D\,T^{\mu}{}_{\nu}}{D\,\tau} = \frac{d\,T^{\mu}{}_{\nu}}{d\,\tau} + \Gamma^{\mu}_{\lambda\rho}\frac{d\,x^{\lambda}}{d\,\tau}T^{\rho}{}_{\nu} - \Gamma^{\sigma}_{\lambda\nu}\frac{d\,x^{\lambda}}{d\,\tau}T^{\mu}{}_{\sigma}$$
transforms as a tensor.