Homework #4

Problem 6 - 4.1.6:

If T_{iklm} is antisymmetric with respect to all the indices it means that all the indices have to take different values. In 3D each index can take 3 different values. So the first index can take 3 values, the second has two possible values left, the third is left with just one possibility, and thus, the fourth index will have to have a repeated value. Thus, the $3^4 = 81$ components of this tensor are zero.