ASTR 680 Practice questions for lecture 8: Geodesic Deviation etc.

1. For the algebraically ambitious: compute the equation of geodesic deviation explicitly for the Schwarzschild spacetime, in Schwarzchild coordinates, and show that for weak gravity ($M/r \ll 1$) it gives the same result you would get in Newtonian gravity.

2. Suppose that an observer looks at a perfect fluid, and that this observer is *not* in the frame where the fluid motions appear isotropic. Do the measured components of the stress-energy tensor conform to your intuition?