

Riemannian Geometry

Hints 17-18

1. (*) Compute f'' , then use Jacobi equation. Finally, see that you have a sum of two positive terms (here it may be useful to notice that the denominator in the definition of sectional curvature is always positive -why it is?).
3. (*) To compute $\frac{D}{dt} \frac{\partial F}{\partial s}(0,0)$ use Symmetry Lemma.