Advanced Topics in Geometry E1 (MTH.B505)

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Credit :
3 ~ 4 submissions

6 submission of homeworks
Feedback : T2SCHOLA

Correction: Our Goal (of MTH.B505–506)

$(n \geq 2)$

Theorem

A complete simply connected Riemannian n-manifold $(n \geq 2)$ of constant sectional curvature k is isometric to

- *the Euclidean space $\mathbb{R}^n$ when $k = 0$,*
- *the n-dimensional sphere $S^n(k) \subset \mathbb{R}^{n+1}$ if $k > 0$, and*
- *the n-dimensional hyperbolic space $H^n(k)$ if $k < 0$.*

— Thanks for pointing out ☺

cf. The fundamental theorem for surface theory

- Riemannian 1-manifold : $\not\exists$ sectional curvature
- complete connected Riem. 1-manifold : $\mathbb{R}$ or S^1 : (flat)