

**Comprehension questions**

PROBLEM 39.1. *What is the curvature of  $\psi(x, y) = xy$ ?*

PROBLEM 39.2. *Show that, in a geometry with everywhere positive curvature  $K > 0$ , at most one of the circles around the origin can be a periodic geodesic.*

PROBLEM 39.3. *Suppose that our geometry applies to some physical situation, where arclengths and distances are measured in meters  $m$ , areas in  $m^2$ , and so on. What unit does the curvature have?*

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