

## **The flat trefoil and other oddities**

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Constant speed curves are basic to curve geometry and dynamics. Yet, in some settings, explicit examples of such curve parameterizations are rare.

For instance, among algebraic plane curves of genus one, the assumption of unit speed parameterization by elliptic functions implies very special behavior at ideal points in the complex projective plane.

In fact, singularities must be precisely prescribed in order that the curve's intrinsic geometry will be (improbably) non-singular and compact with respect to the flat metric induced by arc length. For curves of low degree, I will show how such geometric considerations lead to a sextic trefoil and a few other exceptional curves.