

Übungen zu **Numerik (für Geowissenschaftler)**
Blatt 7

Ü1 (*Curves*) Find the arc length of

a) the parabola $f : [0, 1] \rightarrow \mathbf{R}^2, t \mapsto \begin{pmatrix} t \\ t^2 \end{pmatrix}$

b) the *Lissajoufigur* $g : [0, 2\pi] \rightarrow \mathbf{R}^2, t \mapsto \begin{pmatrix} \sin(2t) \\ \sin(t) \end{pmatrix}$

Tipp: there are computers ...

Ü2 (*Bezier-Applet*) Find an *applet* to construct and modify Beziercurves interactively.

Ü3 (*Beziercurve*) The following controlpoints define a Beziercurve:

	P_0	P_1	P_2	P_3
$P_{j,x}$	1	2	3	4
$P_{j,y}$	1	4	4	1

Calculate and sketch the curve.

Rename (reorder) the points and recalculate the curve.