

Arc Length, Curvature

Reading

Sections 14.3, 14.4

Problems

- Practice Problems 14.3: 1, 3, 5, 7, 17, 19, 25
- Practice Problems 14.4: 3, 5, 7, 9, 13, 25, 26
- Problems to turn in: 14.3 4, 8, 24, 14.4 10, 12

Topics to know

1. Length of a path (14.3 Theorem 1)
2. Arc length parametrization (page 744, bottom)
3. Computation of the arc length parametrization (page 745, example 4)
4. Unit tangent vector (14.4 page 752)
5. Curvature definition for arc length parametrization (page 753)
6. Curvature for lines and circles (examples 1, 2)
7. Formula for Curvature for other parametrizations (14.4 Theorem 1)
8. Unit normal vector (page 756)