**Tutorial problems 9**

1. Sketch the region of integration and evaluate the following integral:
2. Sketch the region of integration and evaluate the following integral:
3. Evaluate the following integral:
4. Sketch the region of integration and evaluate the following integral:
5. Sketch the region of integration and evaluate the following integral:
6. Calculate the double integral

by transforming to polar coordinates. The region of integration is the sector of a circle with radius .

1. Evaluate the integral

by transforming to polar coordinates. The region of integration lies in the sector of a circle between the curves and .