

Math. 423 - Homework 9

Due Date: November 20, 2008

Unless otherwise stated, all problems are from *Elementary Differential Geometry (revised 2nd Edition)* by Barret O'Neill

- (1) page 288: 9; 10; 13 (see Definition 4.7 on page 286); 14
- (2) page 303: 2
- (3) Compute the surface area for the surface of revolution obtained by rotating the curve $z = \ln(x)$ around the z-axis, with
$$-\ln(a) < z < -\ln(b) .$$

What happens to your answer as $a \rightarrow 0$ or as $b \rightarrow \infty$?