

Math 341 Quiz topics for Week 9

- Let  $M$  be a  $n$ -manifold with boundary. State Stokes' theorem for  $M$ .
- Let  $M = \mathbb{R}^n$  and  $\omega = \sum_{i=1}^n a_i dx_1 \wedge \cdots \wedge \overline{dx_i} \wedge \cdots \wedge dx_n$ . Let  $\iota: \partial M \rightarrow M$  be the inclusion mapping. So  $\iota(x_2, \dots, x_n) = (0, x_2, \dots, x_n)$ . Prove Stokes' theorem for this special case.
- What is the  $k$ -th de Rham cohomology group,  $H^k M$ , of a manifold  $M$ ?