

**MATH 166**  
**SUMMER 2011**  
**QUIZ 5**

1. Evaluate the following integrals.

a) (5 pt)  $\int_{2\pi}^{3\pi} x \sin(x) dx$ .

b) (5 pt)  $\int \tan^{-1}(ax) dx, a \neq 0$ .

c) (5 pt)  $\int \cos(\ln(x)) dx$ .

2. (5 pt) Find the volume obtained when the region bounded by  $f(x) = \sin(x)$ ,  $2\pi \leq x \leq 3\pi$  is revolved about the  $y$ -axis.