

MATH 166
SUMMER 2012
QUIZ 6

1. Evaluate the following integrals.

a) (5 pt) $\int \sin(2x) \cos(3x) dx$.

b) (5 pt) $\int_0^{\frac{\pi}{2}} \frac{\sin(x) dx}{\cos^2(x)+1}$.

c) (5 pt) $\int \cos^5(x) \sin^2(x) dx$.

d) (5 pt) $\int \tan^3(x) dx$.

2. (5 pt) Consider the region bounded by $y = |a| \sin(x)$, $0 \leq x \leq \pi$ and the x -axis.

a) (5 pt) Find the volume generated when this region is revolved about the y -axis.

b) (5 pt) Find the volume generated when this region is revolved about the x -axis.