

PRINT Your Name: _____

Quiz 1 — January 17, 2014 – Section 8 – 10:50 – 11:40

Remove everything from your desk except this page and a pencil or pen.

The solution will be posted soon after the quiz is given.

Circle your answer. **Show your work.** Your work must be correct and coherent. **Check your answer.**

The quiz is worth 5 points.

Find $\int \sec^3 x \tan x \, dx$.

Answer: Let $u = \sec x$; so, $du = \sec x \tan x \, dx$. Then the original problem is equal to

$$\int u^2 du = \frac{u^3}{3} + C = \boxed{\frac{\sec^3 x}{3} + C}$$

Check: The derivative of the proposed answer is

$$\frac{3 \sec^2 x}{3} \sec x \tan x = \sec^3 x \tan x \checkmark$$