

PRINT your name _____

Quiz for April 21, 2009 – 9:30 section

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

Circle your answer. Show your work. **Check your answer.**

The quiz is worth 5 points.

Find $\int \sec^3 2x \tan 2x dx$.

Answer: Let $u = \sec 2x$. It follows that $du = 2 \sec 2x \tan 2x dx$ and the problem is

$$(1/2) \int u^2 du = (1/6)u^3 + C = \boxed{(1/6) \sec^3 2x + C.}$$

We check our answer. The derivative of $(1/6) \sec^3 2x$ is

$$3(1/6) \sec^2 2x(2 \sec 2x \tan 2x) = \sec^3 2x \tan 2x. \checkmark$$