Calculus 2 Quiz 2

NAME

Show details in the space next to each problem.
You must show your work to receive full credit.

1. (5 points) Compute the following integral:

$$\int x \tan x \sec x \, dx$$

2. (5 points) Is the following integral convergent or divergent? Why?

$$\int_{1}^{\infty} \frac{\ln x}{x^3} \, dx$$

Formula sheet:

$$\cos(2x) = \cos^2 x - \sin^2 x$$

$$\sin(2x) = 2 \sin x \cos x$$

$$\cos^2 x = \frac{1 + \cos(2x)}{2}$$

$$\sin^2 x = \frac{1 - \cos(2x)}{2}$$

$$\int \sec x \, dx = \ln | \sec x + \tan x | + C$$