

**Quiz # 11**

*NOT DUE! Solutions will be distributed in class tomorrow.*

1. Compute the indefinite integrals.

(a)

$$\int 10x^4 + \csc^2 x \, dx =$$

(b)

$$\int x^2 (x^3 + 5)^9 \, dx =$$

2. Show using the substitution  $u = \cos x$  that

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

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3. Compute the definite integral

$$\int_0^{\pi/2} \cos u \sin(\sin u) du =$$

4. If a particle is moving along a straight line with position function  $s(t)$  and velocity  $v(t)$ , and if  $s(0) = 0$  and  $s(5) = 3$ , compute

$$\int_0^5 v(t) dt.$$