

I. Evaluate the following integrals, and *check your answers!!*

1. $\int_0^4 x \sqrt{x^2 + 9} \, dx$

2. $\int \sin(x)^2 \, dx$ (Hint: Think parts)

3.

4. $\int \tan(x) \, dx$ (Hint: $\tan(x) = \frac{\sin(x)}{\cos(x)}$)

II. Evaluate $\int \sin(x) \cos(x) \, dx$ by substituting $u = \sin(x)$.

Repeat with $u = \cos(x)$. How can you get different answers?