

# AI1110 Assignment 2

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## I. QUESTION 1 (VII)

Question:

Evaluate:

$$\int \frac{\sec^2 x}{\csc^2 x} dx$$

Solution:

$$\begin{aligned} \int \frac{\sec^2 x}{\csc^2 x} dx &= \int \frac{1}{\frac{\cos^2 x}{1}} dx \\ &= \int \frac{\sin^2 x}{\cos^2 x} dx \\ &= \int \tan^2 x dx \\ &= \int \sec^2 x - 1 dx \\ &= \tan x - x \end{aligned}$$