

1. Two antiderivatives (from recent homework and good questions from students)

(a) Evaluate $\int \sec^2(x) \cdot \tan(x) dx$ [Using a Calculus relationship between $\sec^2(x)$ and $\tan(x)$?]

(b) Evaluate $\int \frac{\sin(x)}{\cos^3(x)} dx$ [Using a Calculus relationship between $\sin(x)$ and $\cos(x)$?]

(c) Revisit the integrands of parts (a) and (b). What can you see about the relationship between them?

(d) Are your answers to parts (a) and (b) consistent? Explain.