Calculus

Integral Battles (Calc 2 day #1)

(Q1.) $\int \frac{1}{\sec x + \tan x}\, dx$ vs. $\int \frac{\sec^2 x + \sec x \tan x}{\sec x + \tan x}\, dx$

(Q2.) $\int \frac{\cos x}{1+\sin^2 x}\, dx$ vs. $\int \frac{\cos x}{1+\sin x}\, dx$

(Q3.) $\int \tan(2x)\sec(2x)\, dx$ vs. $\int \tan^2 x \sec^2 x\, dx$

(Q4.) $\int \frac{1}{\sqrt{e^x}}\, dx$ vs. $\int \frac{1}{\sqrt{e^x - 1}}\, dx$

(Q5.) $\int \frac{1}{1-\sqrt{x}}\, dx$ vs. $\int \frac{1}{\sqrt{x+1}-\sqrt{x}}\, dx$

(Q6.) $\int \frac{2^{\tan^{-1} x}}{1+x^2}\, dx$ vs. $\int \frac{(\tan^{-1} x)^2}{1+x^2}\, dx$

(Q7.) $\int (x^3+1)(x+1)\, dx$ vs. $\int \frac{x^3+1}{x+1}\, dx$

(Q8.) $\int \frac{2x^3}{1+x^4}\, dx$ vs. $\int \frac{2x}{1+x^4}\, dx$

(Q9.) $\int \sec^2 x\, dx$ vs. $\int \tan^2 x\, dx$

(Q10.) $\int \frac{1}{x(1+\ln x)}\, dx$ vs. $\int \frac{1+\ln x}{x}\, dx$