

Integration Homework - Compute the following integrals.

1. $\int \frac{1}{2 + \sin x} dx$

2. $\int \frac{1}{3 \cos x + 4 \sin x} dx$

3. $\int \frac{1}{1 + \sin x + \cos x} dx$

4. $\int \frac{\sec x}{4 - 3 \tan x} dx$

5. $\int \frac{1}{\tan x + \sin x} dx$

6. Use the “ $\tan \frac{x}{2}$ ” substitution to derive a formula for $\int \sec x dx$. When you get your answer, use trigonometric identities to put it in the “usual” form.