

Homework 3: Integration Tables (due January 30)

1. Compute  $\int \frac{1}{9x^2 + 16} dx$

2. Compute  $\int \frac{t^2 + 1}{t^2 - 1} dt$

3. Find  $\int \frac{1}{4 - y^2} dy$

4. Find the exact value of  $\int_0^1 \frac{1}{x^2 + 2x + 5} dx$ .

5. Show that  $\int_0^{\sqrt{3}} \frac{x}{\sqrt{9 - x^4}} dx = \frac{\pi}{4}$ . (Hint: First let  $u = x^2$  and then use a table)