

Math 222 (Steven Sam), Fall 2016
Homework 3, due September 28

Only the starred problems (6 total) need to be submitted for grading.

Chapter 1.13 (page 37) from book: 4*, 11, 14

Chapter 1.15 (pages 38–40) from book: 2, 3, 8*, 12, 22, 23

Chapter 2.4 (pages 47–48) from book: 1, 3, 5*, 8, 9, 13*

(E1) Evaluate $\int \sqrt{1-x^2} dx$.

(E2)* Evaluate $\int \frac{dx}{\sqrt{1+x^2}}$ in two ways: first using trigonometric substitutions (§1.10), and second using rational substitutions (§1.11).

(E3) Evaluate $\int \frac{dx}{\sqrt{x^2-1}}$ in two ways: first using trigonometric substitutions (§1.10), and second using rational substitutions (§1.11).

(E4) Evaluate $\int \frac{dx}{\sqrt{x^2+10x+24}}$.

(E5)* Evaluate $\int_{-\infty}^{\infty} \frac{dx}{x^2+x+1}$.