

Problem Set 7

1) For each of the following algebraic techniques, identify when it is appropriate to use. What are some indicators to use these techniques?

(a) Complete the Square.

(b) Trigonometric and Exponential Properties

(c) Conjugate Multiplication

(d) Long Division

2) Compute the following integrals:

(a)  $\int_{-1}^2 \frac{2x \, dx}{x^2 - 6x + 4}$

(b)  $\int \frac{dx}{\sec x - \tan x}$

(c)  $\int e^{x-e^x} \, dx$

(d)  $\int (1 + 5x^5)e^{x^5} \, dx$