

Math 1497 – Calculus II Spring 2022 – Homework 3

Week 3: Jan. 31-Feb. 4, 2022

pg. 557, #5, 7, 9, 11, 12, 20, 21 and 23.

Partial Fractions

$$5. \int \frac{5}{x^2 + 3x - 4} dx$$

$$9. \int \frac{2x^3 - 4x^2 - 15x + 5}{x^2 - 2x - 8} dx$$

$$12. \int \frac{5x - 2}{(x - 2)^2} dx$$

$$21. \int_0^2 \frac{3}{4x^2 + 5x + 1} dx$$

$$7. \int \frac{x^2 + 12x + 12}{x^3 - 4x} dx$$

$$11. \int \frac{4x^2 + 2x - 1}{x^3 + x^2} dx$$

$$20. \int \frac{x^2 + 6x + 4}{x^4 + 8x^2 + 16} dt$$

$$23. \int_1^2 \frac{x + 1}{x(x^2 + 1)} dx$$

pg. 579, #17, 19, 25, 33, 35 and 48.

Improper Integrals

$$17. \int_2^{\infty} \frac{1}{x^2} dx$$

$$25. \int_4^{\infty} \frac{1}{x(\ln x)^3} dx$$

$$35. \int_0^2 \frac{1}{(x - 1)^{1/3}} dx$$

$$19. \int_1^{\infty} \frac{3}{x^{1/3}} dx$$

$$33. \int_0^1 \frac{1}{x^2} dx$$

$$48. \int_1^{\infty} \frac{1}{x \ln x} dx$$

Due: Friday Feb. 4, 2022 by 4pm.