Integral Sheet – these integrals use the techniques you need to know.
Prepare Solutions for the First Week.

1. $\int e^x dx$ 2. $\int \frac{1}{e^x} dx$ 3. $\int \frac{e^x + 1}{e^x} dx$ 4. $\int \frac{e^x}{e^x + 1} dx$ 5. $\int e^{2x} dx$ 6. $\int x e^x dx$ 7. $\int x e^{x^2} dx$

8. $\int \frac{dx}{x}$ 9. $\int \frac{dx}{x^2}$ 10. $\int \frac{dx}{x^2 + 1}$ 11. $\int \frac{dx}{x^2 - 1}$ 12. $\int \frac{x dx}{x^2 + 1}$ 13. $\int \frac{x dx}{x^2 - 1}$ 14. $\int \frac{dx}{x^2 + 2x + 1}$

15. $\int \frac{dx}{x^2 + 2x - 3}$ 16. $\int \frac{dx}{x^2 + 2x + 5}$ 17. $\int \sin(x) dx$ 18. $\int \sin(2x) dx$ 19. $\int \sin^2(x) dx$

20. $\int \sin^3(x) dx$ 21. $\int \sin(x)\cos(x) dx$ 22. $\int \sec^2(x) dx$ 23. $\int \sec(x) dx$ 24. $\int \sec^3(x) dx$

25. $\int \tan(x) dx$ 26. $\int \tan^2(x) dx$ 27. $\int \frac{dx}{\sec(x)}$ 28. $\int x \sin(x) dx$ 29. $\int e^x \sin(x) dx$

30. $\int \ln x^2 dx$ 31. $\int (\ln x)^2 dx$ 32. $\int \ln x dx$ 33. $\int x \ln x dx$ 33. $\int \frac{x^2 + 1}{x^2 (x + 1)} dx$

34. $\int \frac{-3 dx}{(x - 3)(x - 4)}$ 35. $\int \frac{dx}{\sqrt{x} + \sqrt[3]{x}}$