- Integration by substitution: Integration by substitution is a technique for evaluating integrals by making a substitution that simplifies the integrand.
- Integration by partial fractions: Integration by partial fractions is a technique for evaluating integrals of rational functions by expressing the rational function as a sum of simpler fractions that can be integrated using other techniques.
- Integration using trigonometric identities: Integration using trigonometric identities is a technique for evaluating integrals by using trigonometric identities to rewrite the integrand in a form that can be integrated using other techniques.

X. Applications of Integrals:

- Finding areas: Integrals can be used to find the area bounded by a curve, by evaluating a definite integral that represents the area under the curve.
- Solving differential equations: Integrals can be used to solve differential equations, by expressing the solution as an indefinite integral that satisfies the given differential equation.
- Other applications: Integrals have a wide range of applications in fields such as probability, physics, and engineering.

XI. Conclusion:

- Summary of the main points covered in the assignment: In this assignment, we introduced the concept of integrals and discussed their properties and applications. We covered techniques for evaluating integrals, including the Fundamental Theorem of Calculus, the Substitution Rule, Integration by Parts, and other techniques. We also discussed the applications of integrals in areas such as finding areas and solving differential equations.
- Future directions for study in the field of integrals: There are many advanced topics in the field of integrals, including the evaluation of improper integrals, the use of numerical techniques to approximate integrals, and the application of integrals to more advanced mathematical and scientific concepts.