**Lecture 1 Pre-Test**

1. Write down the Fundamental Theorem of Calculus.
2. Solve the following derivative:
3. Suppose that , then what is at ?
4. Does every function have an antiderivative? (True or False)
5. Write down an expression for the area of the colored region.

y=f(t)

t

y

a

x

**Lecture 1 Post-Test**

1. According to the Fundamental Theorem of Calculus, if *f* is a continuous function and *F* is defined by , then what is ?
2. Solve the following derivative:
3. What is the condition for a function to have an antiderivative?
4. Suppose that , then what is at ?
5. Write down an expression for the area under the curve defined by the function in the interval (that is, ).

**Lecture 2 Pre-Test**

1. Write down Euler’s formula for
2. Write the angle sum formula for .
3. If then what is the value of *y*?
4. Write the double angle formula for .
5. Which of the following is an even function?

**Lecture 2 Post-Test**

1. Write down Euler’s formula for .
2. Write the angle sum formula for sin(2a+3b)
3. If , then what is the value of ?
4. Write the double angle formula for .
5. Please describe what an *odd* function means.

**Lecture 3 Pre-Test**

1. Write down an expression for the variance of *y*, , in terms of the sample mean and sample second moment .
2. Write down the Probability Distribution Function, for a uniform random variable between values 3 and 2.