Final Exam

Calculus I

1. Find the average rate of change of the function over the given interval.
2. Suppose that and . Find the following limit.
3. Find the limit.
4. Find the limit of as approaches .
5. Find an equation for the tangent line go at .
6. Find the derivative of the function.
7. Find by applying the product rule.
8. The function , gives the position of a body moving on a coordinate line, with in meters and in seconds. Find the body’s speed and acceleration at the endpoints of the interval.
9. Find .
10. Use the chain rule to fine .
11. Find the derivative of with respect to .
12. Find the derivative of with respect to .
13. Find the antiderivative for the function.
14. Find the antiderivative for each function.
15. Evaluate the definite integral.
16. Evaluate the integral.
17. Below is a value of . Use the definitions for hyperbolic functions and the identity to find the values of the remaining five hyperbolic functions.

