**Calculus Quiz Review: 5.1, 5.2, and 5.4
The Calculus of Logarithmic and Exponential Functions**

Find .

1. y =  2. y = x2

3. y = ln (4x2 + 3x) 4. y = cos (ln x)

5. y = ln (ln ) 6. y = 

7. y =  8. y = 

9. x + 5 = xy 10. y = 

Evaluate.

11.  12.  13. 

14.  15.  16. 

17.  18.  19. 

20.  21.  22. 

23. Find the value of  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

24. Find the value of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**True or False.** Circle the correct answer.

25. TRUE or FALSE: 

26. TRUE or FALSE: 

27. TRUE or FALSE: 

28. TRUE or FALSE: 

29. Demonstrate that .

30. Find the equation of the tangent line to the graph of y = xlnx2 at the point where

x = e.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

31. Given , use implicit differentiation to find.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

32. Find the area of the region bounded by the graphs of the equations. \_\_\_\_\_\_\_\_\_\_\_\_\_

, y = 0, x = 0, x = 1

33. Find the absolute maximum of . \_\_\_\_\_\_\_\_\_\_\_\_\_

34. Find the particular solution that satisfies the initial conditions.

, ,  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_