Name: _____ Class: _____ Date: _____ ID: A

RECALCULUS - EXPONENTIAL AND LOGARITHMIC FUNCTIONS

Short Answer

Solve each equation.

1. $\log_{10} 5 + \log_{10} x = \log_{10} 25$ _____

2. $\log_5 x + \log_5 (x + 23) = \log_5 50$ _____

3. $2 \log_3 x - \log_3 4 = \log_3 16$ _____

4. $\log_{10} 49 - \log_{10} \frac{7}{5} + \log_{10} 4 = \log_{10} 5x$ _____

5. Solve $e^{7x} = 8.7$ for x correct to four decimal places. _____

6. Find the amount of time required to double an amount at 7.72 % if the interest is compounded continuously.

_____

Solve the given equation.

7. $2^{9n-11} = \frac{1}{16}$ _____

8. $6^{5n+6} = 1{,}296$ _____

Evaluate the logarithmic expression.

9. $\log_8 32{,}768$ _____

10. Solve $\log_8 n = \frac{4}{3}$. _____

11. Solve $\log_3 x = 6$. _____

Solve the given equation. If necessary, round to four decimal places.

12. $\log_2 9 + \log_2 a = \log_2 13$ _____

13. $\log_5 (x+2) - \log_5 11 = \log_5 121$ _____

14. $13^y = 21$ _____

15. $9^{2x} = 21$ _____

Solve the given equation. Round to the nearest ten-thousandth, if necessary.

16. $4e^x - 4 = 2$ _____

17. $10 + 5e^{2x} = 17$ _____

18. Evaluate the expression $\log_3\left(\frac{1}{243}\right)$. _____

19. Solve $\log_2 x = 3$. _____

Solve the equation or inequality.

20. $x^{\frac{3}{4}} = 24$ _____

21. $\log_4 112 = x$ _____

22. Kronos Industries bought a desktop for $3000. It is expected to depreciate at a rate of 10% per year. What will the value of the desktop be in 4 years? Round to the nearest dollar.

_____

23. If the Ramirez family deposits $5000 in a savings account at 7.5% interest compounded continuously, how much will be in the account after 15 years?

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