

Unit 9A Test Review

Date _____ Period _____

Solve each equation. Round your answers to the nearest thousandth.

1) $-2^{x+2} = -34$

2) $8e^{k+2} = 20$

3) $3^{9x} + 7 = 39$

4) $10^{v+1} + 1 = 69$

Expand each logarithm.

5) $\log_8 (x^6 \cdot y)^5$

6) $\log_6 \frac{6a}{b^4}$

7) $\ln (c\sqrt{a \cdot b})$

8) $\log_5 \frac{u^5}{v^3}$

Condense each expression to a single logarithm.

9) $5\log_6 x - 30\log_6 y$

10) $3\ln u - 6\ln v$

11) $30\log_4 a + 6\log_4 b$

12) $\log_5 7 + \frac{\log_5 11}{3} + \frac{\log_5 6}{3}$

Solve each equation.

13) $\log -2n = \log (2n + 3)$

14) $\log_{14} (-2n - 6) = \log_{14} 29$

15) $\log_5 9 - \log_5 -3x = \log_5 14$

16) $\log_9 (x - 1) + \log_9 8 = \log_9 44$

17) $\log_3 2x^2 + \log_3 2 = 4$

18) $\log_3 5 - \log_3 (x - 4) = 3$

19) $5^{-3x-2} = 5^{-2x}$

20) $\left(\frac{1}{4}\right)^{2r} = 64$

Solve each equation. Round your answers to the nearest thousandth.

21) $7 \cdot 10^{b-5} = 1.3$

22) $11^{x+6} + 8 = 45$

23) $11^{7b} + 7 = 8$

24) $3^{x-0.3} + 6 = 57$