

9.2 Solving Exponential Equations Requiring Logarithms

Period _____

Solve each equation. Round your answers to the nearest ten-thousandth (four decimals).

1) $5^v = 22$

2) $14^x = 91$

3) $5^b = -10$

4) $17^p = 18$

5) $8^n - 6 = 87$

6) $16^x + 3 = 81$

7) $3^k - 3 = 50$

8) $7 \cdot 10^v = 14$

9) $16^{-5k} = 3$

10) $13^{-4a} = 30$

11) $-4 \cdot 19^{-4a} = -58$

12) $-8 \cdot 19^{2p} = -30$

13) $-9 \cdot 10^b - 4 = 11$

14) $-10 \cdot 10^x + 2 = -75$

15) $-6 \cdot 2^n - 2 = -47$

16) $4 \cdot 17^n + 2 = 31$

17) $-6 \cdot 17^{8b} + 3 = -74$

18) $-3 \cdot 2^{x-10} - 1 = -59$

19) $-10 \cdot 10^{-3x} - 3 = -54$

20) $-14^{n-10} - 8 = -89$

CHALLENGE: Solve each equation. Round your answers to the nearest ten-thousandth (four decimals).

21) $-6 \cdot 15^{0.9n-8} + 4 = -77$

22) $-2 \cdot 9^{2m-3} - 9 = -11$

23) $6 \cdot 9^{3a-2} + 8 = 50$

24) $6 \cdot 16^{3-5x} - 1 = 20$