Precalculus

Name_____

HW 6-2 Solving Exponential and Logarithmic Equations

Period____

Solve each equation graphically. Round your answers to the nearest tenth.

1) $17^{r-9} = 11.3$

2) $4^{-2a} = 100$

3) $10^{5.4r} = -23.8$

4) $2^{x-9} = 71$

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

5) $8e^{-x+4} = 8$

6) $-9 \cdot 2^{-9n} = -36$

7) $10 \cdot 20^{n+2.7} = 4000$

8) $19^{x-9} - 1 = 18$

9) $14^{10k} + 8 = 78$

10) $2^{v+3} - 6 = 2$

Solve each equation.

11) $5\log_8 -2x = 5$

12) $5\log_{12}(p-10) = 10$

13) $\log_{12} 2p + 1 = 0$

14) $-6\log_4\left(n - \dfrac{15}{16}\right) = 12$

15) $-5\log_2 5b = -20$

16) $-7\log_5 (x + 9) = -7$

17) $\log_9 -x + \log_9 7 = \log_9 80$

18) $\log_7 (x + 8) - \log_7 5 = 1$

19) $\log_9 (x + 10) + \log_9 x = \log_9 11$

20) $\log_6 (x^2 - 9) - \log_6 2 = 3$

21) $9^5 \cdot 9^{b-6} = 81$

22) $4^x \cdot 4^{x-2} = 64$

23) $19^{p+8} \cdot 19^{10} = 19^{33}$

24) $4 \cdot 25^{-2n} = 20$