Algebra 2 w/ Support Name_____

Solving Log Equations WS #1

Solve each equation.

1) $5^{-r+2} = 625$

2) $4^{-n-2} = 64$

3) $2^{x+3} = \frac{1}{8}$

4) $5^{-r} = 5^{2r-2}$

5) $2^{2v} = 2^2$

6) $81^{x} = 9^{2x}$

7) $3^{-3x} = 3^2$

8) $16^{3n} = \frac{1}{4}$

9) $64^{3x-1} = \frac{1}{4}$

10) $5^{2a+1} = 5^4$

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

11) $19^{-r} + 8 = 36$

12) $9^{n+1} + 9 = 65$

13) $-7 \cdot 8^{2b} = -55$

14) $2^{-5n} - 7 = 68$

15) $10^{6n} + 3 = 13$

Solve each equation.

16) $\log_{17}(n^2 + 11) = \log_{17}(9n + 3)$

17) $\log(8 + 3m^2) = \log(4m^2 - 2m)$

18) $\log(40 + 2a) = \log(a^2 + 5a)$

19) $\ln(-9 + 3x^2) = \ln(4x^2 - 6x)$

20) $\log_{17}(-5m - 2) = \log_{17}(m^2 - 52)$

21) $\log_6 3 + \log_6(x - 7) = 3$

22) $\log_4 4x^2 - \log_4 6 = 2$

23) $\log_2 10 - \log_2(x - 2) = 3$

24) $\log_6 x - \log_6(x - 3) = 1$

25) $\log_9 4 + \log_9 3x^2 = 2$