Pre-Calculus/Trig 3 Name: _____

UNIT 3: Exponential & Logarithmic Functions – SECTION 7 WORKSHEET Date: _____

SOLVING LOGARITHMIC EQUATIONS

Directions: Solve each logarithmic equation. Remember to check for extraneous solutions!

1.) $\log(5x) = \log(2x + 9)$

2.) $\log(10 - 4x) = \log(10 - 3x)$

3.) $\log(4p - 2) = \log(-5p + 5)$

4.) $\log(4k - 5) = \log(2k - 1)$

5.) $\log(-2a + 9) = \log(7 - 4a)$

6.) $2\log_7(-2r) = 0$

7.) $-10 + \log_3(n + 3) = -10$

8.) $-2\log_5(7x) = 2$

9.) $\log(-m) + 2 = 4$

10.) $-6\log_3(x - 3) = -24$

11.) $\log_{12}(v^2 + 35) = \log_{12}(-12v - 1)$

12.) $\log_9(-11x + 2) = \log_9(x^2 + 30)$

13.) $\log(16 + 2b) = \log(b^2 - 4b)$

14.) $\ln(x^2 + 12) = \ln(-9x - 2)$

15.) $\log x + \log 8 = 2$

16.) $\log x - \log 2 = 1$

17.) $\log 2 + \log x = 1$

18.) $\log x + \log 7 = \log 37$

19.) $\log_8 2 + \log_8(4x^2) = 1$

20.) $\log_9(x + 6) - \log_9 x = \log_9 2$

21.) $\log_6(x + 1) - \log_6 x = \log_6 29$

22.) $\log_5 6 + \log_5(2x^2) = \log_5 48$

23.) $\ln(4x - 1) = 3$

24.) $\ln(3x + 11) = 4$