Name _____ Date _____

Mr. Schlansky Algebra II

Logarithmic Equations

Solve the following logarithmic equations

1. $\log_5 x = 4$

2. $\log_b 27 = 3$

3. $\log_y 64 = 2$

4. $\log_{(x+1)} 64 = 3$

5. $\log_{5x-1} 4 = \frac{1}{3}$

6. $\log_{(x+4)}(17x - 4) = 2$

7. $\log_{27}(2x-1) = \frac{4}{3}$

8. $2\log_4(5x) = 3$

9. $2\log_4(2x) = 1$

10. $3\log_2(2x) = 5$

11. log 45x – log3 = 1

12. $\log_3 x + \log_3(x-8) = 2$

13. $\log x + \log(x-3) = 1$

14. $\log x + \log(x+9) = 1$

15. $2\log_4 x - \log_4(x-1) = 1$

16. $\log\left(x + \frac{3}{10}\right) + \log x + 1 = 0$

17. $\log_{x+3} \dfrac{x^3+x-2}{x} = 2$

18. $\log_{16}(p^2-p+4) - \log_{16}(2p+11) = \dfrac{3}{4}$

19. $\log_{(x+3)}(2x+3) + \log_{(x+3)}(x+5) = 2$

20. $\log_2(x^2-7x+12) - \log_2(2x-10) = 3$