

**Log Properties 3 (GREEN)****Solve each equation. Pick 10 equations to solve and do the rest for more practice.**

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

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

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

12.  $\log x + \log 8 = 2$

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

13.  $\log x - \log 2 = 1$

4.  $2\log_7 - 2r = 0$

14.  $\log x + \log 7 = \log 37$

5.  $-10 + \log_3(n + 3) = -10$

15.  $\log_8 2 + \log_8 4x^2 = 1$

6.  $-2\log_5 7x = 2$

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

7.  $\log - m + 2 = 4$

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

8.  $-6\log_3(x - 3) = -24$

18.  $\log_5 6 + \log_5 2x^2 = \log_5 48$

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

19.  $\log_5 10 + \log_5 12 = 3\log_5 2 + \log_5 a$

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

20.  $\log_7(x + 6) = \log_7(8x + 20)$

**Solve each equation. Pick 7 equations to solve and do the rest for more practice.**

21.  $3^{x^2+2x} = 27$

28.  $2 \cdot 9^{2x-5} = 54$

22.  $3 \cdot 4^{2(x^2+1.5)} - 15 = 3087$

29.  $5^{3x+7} - 7 = 304$

23.  $3^x = 5$

30.  $3 \cdot 6^{4x-3} + 2 = 587$

24.  $4 \cdot 7^x = 1372$

31.  $16^b = 88$

25.  $6^{2x} + 11 = 227$

32.  $3^x - 2 = 11$

26.  $9 \cdot 12^{x+1} - 5 = 15507$

33.  $2^{x-1} = 23$

27.  $10^{3x} = 8$

34.  $-4 \cdot 3^{5x} - 4 = -30$