Expanding and condensing logs

Name _____ Date _____

1. $\log_2(4x^2) =$ _____

2. $\log_3 \frac{x^3}{27} =$ _____

3. $5 \log_5 x + \log_5 4 =$ _____

4. $\log_3(27x^3) =$ _____

5. $5 \log x + \log 7 =$ _____

6. $\log_3(9x^4) =$ _____

7. $4 \log_2 x + \log_2 4 =$ _____

8. $3 \log_2 x + \log_2 3 =$ _____

9. $4 \log_2 x + \log_2 5 =$ _____

10. $2 \log_3 x + \log_3 3 =$ _____

11. $\log_3 \frac{x^5}{9} =$ _____

12. $5 \log x + \log 2 =$ _____

13. $3 \log_3 x - \log_3 6 =$ _____

14. $\log_3 \frac{x^4}{27} =$ _____

15. $\log_3 \frac{x^5}{27} =$ _____

16. $5 \log_3 x - \log_3 6 =$ _____

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17. $3 \log_5 x + \log_5 8 =$ _____

18. $3 \log_2 x + \log_2 9 =$ _____

19. $4 \log_3 x - \log_3 6 =$ _____

20. $\log_3 (27x^3) =$ _____

21. $\log_3 \frac{x^2}{3} =$ _____

22. $\log_2 \frac{x^2}{2} =$ _____

23. $\log_5 (125x^5) =$ _____

24. $\log_3 \frac{x^2}{3} =$ _____

25. $5 \log_3 x - \log_3 4 =$ _____

26. $\log_2 \frac{x^4}{8} =$ _____

27. $\log_5 (25x^4) =$ _____

28. $\log_5 (5x^3) =$ _____

29. $\log \frac{x^3}{10} =$ _____

30. $\log_5 \frac{x^4}{125} =$ _____

31. $2 \log_2 x - \log_2 2 =$ _____

32. $\log_2 \frac{x^2}{4} =$ _____

33. $2 \log x + \log 2 =$ _____

34. $\log_2 \frac{x^4}{2} =$ _____