NAME _____ DATE _____ PERIOD _____

7-5 Skills Practice
Properties of Logarithms

Use $\log_2 3 \approx 1.5850$ and $\log_2 5 \approx 2.3219$ to approximate the value of each expression.

1. $\log_2 25$

2. $\log_2 27$

3. $\log_2 \frac{3}{5}$

4. $\log_2 \frac{5}{3}$

5. $\log_2 15$

6. $\log_2 45$

7. $\log_2 75$

8. $\log_2 0.6$

9. $\log_2 \frac{1}{3}$

10. $\log_2 \frac{9}{5}$

Solve each equation. Check your solutions.

11. $\log_{10} 27 = 3 \log_{10} x$

12. $3 \log_7 4 = 2 \log_7 b$

13. $\log_4 5 + \log_4 x = \log_4 60$

14. $\log_6 2c + \log_6 8 = \log_6 80$

15. $\log_5 y - \log_5 8 = \log_5 1$

16. $\log_2 q - \log_2 3 = \log_2 7$

17. $\log_9 4 + 2 \log_9 5 = \log_9 w$

18. $3 \log_8 2 - \log_8 4 = \log_8 b$

19. $\log_{10} x + \log_{10} (3x - 5) = \log_{10} 2$

20. $\log_4 x + \log_4 (2x - 3) = \log_4 2$

21. $\log_3 d + \log_3 3 = 3$

22. $\log_{10} y - \log_{10} (2 - y) = 0$

23. $\log_2 r + 2 \log_2 5 = 0$

24. $\log_2 (x + 4) - \log_2 (x - 3) = 3$

25. $\log_4 (n + 1) - \log_4 (n - 2) = 1$

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