

Unit 8 – Log Properties (Expand, Evaluate)**Expand each logarithm.**

1. $\log xyz$

2. $\log_2 \frac{x}{yz}$

3. $\log 6x^3y$

4. $\log 7(3x - 2)^2$

5. $\log (xy)^2$

6. $\log \frac{5x}{4y}$

7. $\log_5 5x^5$

8. $\log_4 (3xyz)^2$

Name _____ Hour _____

Evaluate each logarithmic expression using COB.

9. $3 \log_2 2 - \log_2 4$

10. $\log_3 3 + 5 \log_3 3$

11. $\log 1 + \log 100$

12. $2 \log_8 4 - 3 \log_8 3$

13. $2 \log_5 1 - 2 \log_5 5$

14. $\log_9 \frac{1}{3} + 3 \log_9 3$

15. $2(\log_3 5 + \log_3 2) - 3 \log_3 1$

16. $2 \log_3 3 + \log_3 3$