MTH 30 LECTURE NOTES (Ojakian)

Topic 17: Log Properties

1. <u>Log Rules</u>

   (a) $\log_b(1) = 0$

   (b) $\log_b(b) = 1$

   (c) $\log_b(b^u) = u$

   (d) $b^{(\log_b(u))} = u$

   (e) $\log_b(M \cdot N) = \log_b(M) + \log_b(N)$ (product rule for log)

   (f) $\log_b(M/N) = \log_b(M) - \log_b(N)$ (quotient rule for log)

   (g) $\log_b(M^n) = n \log_b(M)$ (power rule for log)

2. <u>Log Rules in 2 directions</u>

   (a) Expanding ...

   (b) Combining/Condensing ...

3. <u>Problems</u>

   Section 4.5: 7, 9, 13, 17, 21