4.8 Proparies of Ligarithms $\frac{100}{100} = \frac{1000}{100} = \frac{100$ log 25 = Ln25

Product properties

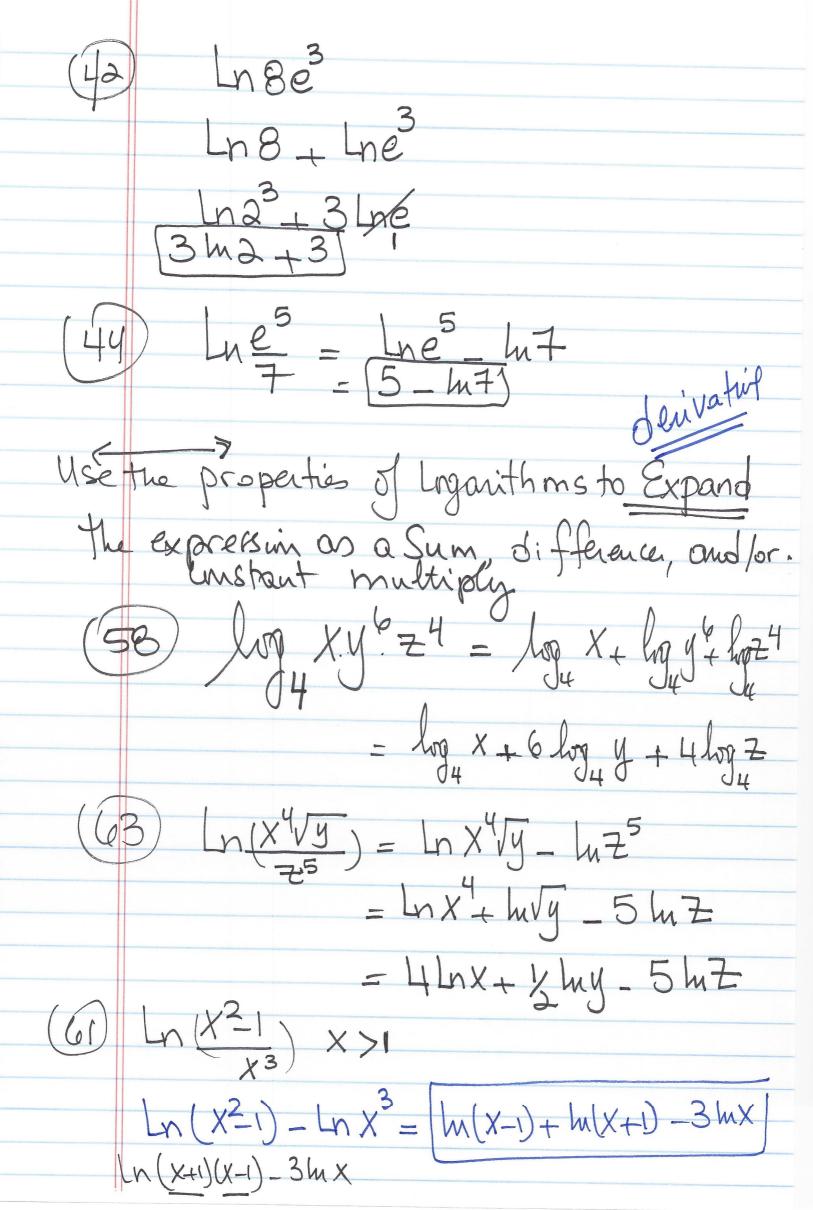
log AB = log A + log B.

Ln AB = lon A + lon B.

2. Quotient property Ma A = Ma A - Mg B Ln A = LnA - lnB. over property log An = n log A. Ln An = n ln A In A3 = Ln(A.A.A) = 3 Ln A = LnA+lnA=BlnA) Write each logarithm in terms of In 2 and In 3. In 6 = In (2.3) = In2+ In3 ~ Exporess in terms of In 4 and In 5 (422) ln 500 = ln (4x125).-= Ln4 + ln125 = lu4 + ln5°

24) ln = = m5 - 1/2 m4 V Use the propertiesy logarithms to rewrite and Simplify the logarithmic expression.

log 243 = hg 3.81 = hg 3 = 5 hg 3. 243=3 log 3 = Ln 3 = Ln 3 = Ln 3 = Ln 3 = 2 $X \longleftrightarrow 9^{2} = 243.$ $(3^{2})^{x} = 3^{5}$



Condense the expression to the logarithm of a Single quantity. techniques: Solving Equations). nx - lu(x+1) - lu(x-1) M (X+1) (X-1). $2 \left[\frac{hx - h(x^2 - 1)}{x} \right] = 2 \left[\frac{hx - h(x^2 - 1)}{x} \right]$ (X^2-1) prove that ligax =