

MATH 1314

Chapter 4.4: Properties of Logarithms

* PRODUCT RULE: $\text{LOG}_a(MN) = \text{LOG}_a M + \text{LOG}_a N$

$$\text{LOG}_2(8X) =$$

* QUOTIENT RULE: $\text{LOG}_a\left(\frac{M}{N}\right) = \text{LOG}_a M - \text{LOG}_a N$

$$\text{LOG}_3\left(\frac{26}{X}\right) =$$

* POWER RULE: $\text{LOG}_a M^b = b \text{LOG}_a M$

$$\text{LOG}_5 7^2 =$$

* EXPAND $\text{LOG}_2\left(\frac{XY^3}{W^2Z^5}\right)$.

* CONDENSE $4\text{LOG}_b X - 2\text{LOG}_b 6 - \text{LOG}_b Y$

* CHANGE OF BASE RULE:

$$3^x = 18$$

SOLVE.

$$\log_5 140$$

$$\log_6 48$$

$$5^x = 72$$

$$12^x = 435$$