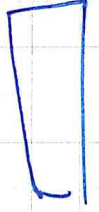


Math 27, HW #16

Selected Problems

Pg. 207, #25 Find $\log_6 8$ given that $\log_6 2 \approx 0.3562$



$$\text{Now, } \log_6 8 = \log_6 2^3 = 3 \log_6 2 = 3(0.3562) = \boxed{}$$

Pg. 207, #56 Expand $\ln\left(\frac{xy}{z}\right) = \ln(xy) - \ln z = \boxed{\ln x + \ln y - \ln z}$

Now, $\ln\left(\frac{xy}{z}\right) =$

Pg. 208, #75 Condense $\frac{1}{2} \ln(x^2+4) + \ln x$

Now, $\left(\frac{1}{2}\right) \ln(x^2+4) + \ln x = \ln(x^2+4)^{\frac{1}{2}} + \ln x$
 $= \ln [x(x^2+4)^{\frac{1}{2}}]$
 $= \ln(x\sqrt{x^2+4})$

Pg. 207, #95 Evaluate $\log_5 375 - \log_5 3$

Now, $\log_5 375 - \log_5 3 = \log_5\left(\frac{375}{3}\right) = \log_5(125) = 3$
 $= \log_5(125 \cdot 3) - \log_5 3 = \log_5 125 + \log_5 3 - \log_5 3$