

You may have correctly used the quotient rule to get

$\log_3\left(\frac{243x}{27y}\right) = \log_3 243x - \log_3 27y$ , and then used the product rule. But you probably forgot to distribute the minus sign when rewriting  $\log_3 27y$  as  $\log_3 27 + \log_3 y$ .