

28.17 1)

$$\log_8 5 = \frac{\log_2 5}{\log_2 8} = \frac{\log_2 5}{\log_2 2^3} = \frac{\log_2 5}{3 \log_2 2} = \frac{\log_2 5}{3} = \frac{\alpha}{3}$$

28.17 2)

$$\log_9 7 = \frac{\log_3 7}{\log_3 9} = \frac{\log_3 7}{\log_3 3^2} = \frac{\log_3 7}{2} = \frac{\alpha}{2}$$

28.17 3)

$$\log_{1000} 3 = \frac{\log 3}{\log 1000} = \frac{\log 3}{\log 10^3} = \frac{\log 3}{3 \log 10} = \frac{\alpha}{3}$$

28.17 4)

$$\log_{11} 16 = \frac{\log_4 16}{\log_4 11} = \frac{\log_4 4^2}{\log_4 11} = \frac{2}{\log_4 11} = \frac{2}{\alpha}$$

28.17 5)

$$\log e^5 = \frac{\ln e^5}{\ln 10} = \frac{5}{\ln 10}$$