基本問題を確認しよう

数Ⅱ　対数とその性質(解答)

1 (1) $\log_3 27 = \log_3 3^3 = 3\log_3 3 = 3$

(2) $\log_5 1 = 0$

(3) $\log_2 \sqrt{2} = \log_2 2^{\frac{1}{2}} = \dfrac{1}{2}\log_2 2 = \dfrac{1}{2}$

2 (1) $\log_4 2 + \log_4 8 = \log_4 2 \cdot 8 = \log_4 16 = \log_4 4^2 = 2\log_4 4 = 2$

(2) $\log_7 98 - \log_7 2 = \log_7 \dfrac{98}{2} = \log_7 49 = \log_7 7^2 = 2\log_7 7 = 2$

3 $\log_{27} 9 = \dfrac{\log_3 9}{\log_3 27} = \dfrac{\log_3 3^2}{\log_3 3^3} = \dfrac{2}{3}$