

۱۳۷- اگر $\log_4 3 = 0,8$ باشد، مقدار $\log_{12} 6$ کدام است؟

$$\frac{7}{9} \quad (4)$$

$$\frac{3}{4} \quad (3)$$

$$\frac{8}{11} \quad (2)$$

$$\frac{13}{18} \quad (1)$$

$$\log_{\mu^2} \mu = \frac{1}{10} \rightarrow \frac{1}{\mu} \log_{\mu} \mu = \frac{1}{10} \rightarrow \log_{\mu} \mu = \frac{10}{1} = 10 \rightarrow \log_{\mu^2} \mu = \frac{10}{2} = 5$$

$$\log_{12} 6 = \log_{12} 2 + \log_{12} 3 = \frac{1}{\log_{12} 2} + \frac{1}{\log_{12} 3} = \frac{1}{2 \log_2 2 + \log_2 3} + \frac{1}{2 \log_2 2 + \log_2 3} = \frac{1}{2 + 10} + \frac{1}{2 \left(\frac{5}{2}\right) + 1} = \frac{1}{12} + \frac{2}{11} = \frac{11}{11} + \frac{24}{11} = \frac{35}{11}$$