

指数  
対数

1-1

次の計算をせよ。

(1)  $3^4 \times 3^{-2}$

(3)  $(a^2 b^5)^3$

(5)  $\sqrt{3} \times \sqrt[3]{3} \times \sqrt[6]{3}$

(7)  $\log_3 7 - \log_3 21$

(2)  $\left(\left(\frac{1}{4}\right)^{\frac{1}{3}}\right)^{\frac{3}{2}}$

(4)  $4\sqrt[5]{7} + 5\sqrt[5]{7}$

(6)  $\log_{10} 2 + \log_{10} 5$

(8)  $\frac{1}{2} \log_4 8 + \log_4 \sqrt{2}$

(1)  $3^{4-2} = 3^2 = 9$

(2)  $\left(\frac{1}{4}\right)^{\frac{1}{3} \cdot \frac{3}{2}} = \left(\frac{1}{4}\right)^{\frac{1}{2}} = \sqrt{\frac{1}{4}} = \frac{1}{2}$

(3)  $a^6 b^{15}$

(4)  $9\sqrt[5]{7}$

(5)  $3^{\frac{1}{2}} \times 3^{\frac{1}{3}} \times 3^{\frac{1}{6}} = 3^{\frac{1}{2} + \frac{1}{3} + \frac{1}{6}} = 3^1 = 3$

(6)  $\log_{10} 2.5 = \log_{10} 10 = 1$

(7)  $\log_3 \frac{7}{21} = \log_3 \frac{1}{3} = \log_3 3^{-1} = -1$

(8)  $\log_4 \sqrt{8} \cdot \sqrt{2} = \log_4 \sqrt{16}$   
 $= \log_4 4$   
 $= 1$