

$$\begin{aligned} (17) \quad & \sqrt[4]{\sqrt[3]{2^2}} \\ &= 2^{2 \times \frac{1}{3} \times \frac{1}{4}} \\ &= 2^{\frac{1}{6}} \quad (C) \end{aligned}$$

$$\begin{aligned} (18) \quad & \sqrt[3]{2} \times \sqrt[4]{2} \times \sqrt[12]{32} \\ &= \sqrt[12]{2^4 \times 2^3 \times 32} \\ &= \sqrt[12]{2^7 \times 2^5} \\ &= \sqrt[12]{2^{12}} \\ &= 2 \quad (B) \end{aligned}$$

$$\begin{aligned} (19) \quad & \sqrt[4]{(81)^{-2}} \\ &= \sqrt[4]{9^{2 \times -2}} \\ &= 9^{-\frac{1}{2}} \\ &= 9^{-1} \\ &= \frac{1}{9} \quad (A) \end{aligned}$$

$$\begin{aligned} (20) \quad & (256)^{0.16} \times (256)^{0.09} \\ &= (256)^{0.16+0.09} \\ &= (256)^{0.25} \\ &= 4^{4 \times 0.25} \\ &= 4^1 \\ &= 4 \quad (A) \end{aligned}$$

$$\begin{aligned} (21) \quad (A) \quad & x^{\frac{12}{7}} - x^{\frac{5}{7}} \\ &= x^{\frac{5}{7}} (x^{\frac{7}{7}} - 1) \\ &= x^{\frac{5}{7}} (x - 1) \\ &\neq x \end{aligned}$$

$$\begin{aligned} (B) \quad & \sqrt[12]{(x^4)^{\frac{1}{3}}} \\ &= x^{4 \times \frac{1}{3} \times \frac{1}{12}} \\ &= x^{\frac{1}{9}} \\ &\neq x \end{aligned}$$

$$\begin{aligned} (C) \quad & (\sqrt{x^3})^{\frac{2}{3}} \\ &= x^{3 \times \frac{2}{3} \times \frac{1}{2}} \\ &= x \quad (C) \end{aligned}$$

$$\begin{aligned} (D) \quad & x^{\frac{12}{7}} \times x^{\frac{7}{12}} \\ &= x^{\frac{12}{7} + \frac{7}{12}} \\ &= x^{\frac{144+49}{84}} \\ &= x^{\frac{193}{84}} \end{aligned}$$