

Nama :

Kelas :

Latihan Soal Bilangan Pangkat

Selesaikan soal berikut dengan benar !

$$\begin{aligned}1. & 5^{10} \cdot 5^{-4} \cdot 25^{-2} \\&= 5^{10} \cdot 5^{-4} \cdot (\dots)^{-2} \\&= 5^{10} \cdot 5^{-4} \cdot \dots \\&= 5 \cdot \dots + \dots + \dots \\&= 5 \cdot \dots \\&= \dots\end{aligned}$$

$$\begin{aligned}2. & \frac{16 \cdot 2^8}{2^{10}} \\&= \frac{\dots \cdot 2^8}{2^{10}} \\&= 2 \cdot \dots + \dots - \dots \\&= \dots \\&= \dots\end{aligned}$$

$$\begin{aligned}3. & (3^2)^{\frac{1}{2}} \\&= \dots\end{aligned}$$

$$\begin{aligned}4. & 4x^6 : (2x^3)^2 \\&= \frac{4x^6}{2 \cdot \dots (x^3)^2}\end{aligned}$$

$$= \frac{4x^6}{\dots\dots\dots} = \dots\dots\dots$$

$$5. \sqrt[5]{243} \quad . \quad \sqrt[7]{128}$$

$$= 243^{\dots\dots\dots} \quad . \quad 128^{\dots\dots\dots}$$

$$= (\dots\dots\dots)^{\dots\dots\dots} \quad . \quad (\dots\dots\dots)^{\dots\dots\dots}$$

$$= \dots\dots\dots \quad . \quad \dots\dots\dots$$

$$= \dots\dots\dots$$

$$6. 32^{\frac{2}{5}} \quad . \quad 125^{\frac{1}{3}}$$

$$= (\dots\dots\dots)^{\frac{2}{5}} \quad . \quad (\dots\dots\dots)^{\frac{1}{3}}$$

$$= \dots\dots\dots \quad . \quad \dots\dots\dots$$

$$= \dots\dots\dots$$

$$7. \left(\frac{1}{81}\right)^{-4} \cdot \left(\frac{3}{2}\right)^{-1}$$

$$= (\dots\dots\dots)^{-4} \cdot \frac{1}{\frac{3}{2}}$$

$$= \dots\dots\dots \cdot \frac{2}{3}$$

$$= \dots\dots\dots \cdot 2$$

$$\begin{aligned}
 8. \frac{\sqrt[3]{100^6}}{125^{\frac{2}{3}}} &= \frac{100^{\frac{6}{3}}}{(\dots)^{\frac{2}{3}}} \\
 &= \frac{\dots}{\dots} \\
 &= \frac{\dots}{\dots} = \dots
 \end{aligned}$$

$$\begin{aligned}
 9. (0,01)^{-2} + \left(\frac{1}{216}\right)^{-\frac{2}{3}} &= (10^{\dots})^{-2} + (\dots)^{-\frac{2}{3}} \\
 &= \dots + \dots \\
 &= \dots + \dots = \dots
 \end{aligned}$$

$$\begin{aligned}
 10. \left(\frac{81^{\frac{3}{4}} x^{\frac{1}{2}} y^{\frac{1}{4}} z^{\frac{1}{2}}}{27^{\frac{1}{2}} x^{\frac{1}{2}} y^{\frac{1}{4}} z^{\frac{1}{2}}} \right)^4 \\
 &= \left(\frac{81}{27} x^{\frac{3}{4} - \frac{1}{2}} y^{\frac{1}{4} - \frac{1}{4}} z^{\frac{1}{2} - \frac{1}{2}} \right)^4 \\
 &= \left(\dots x^{\frac{1}{4}} y^{\frac{0}{4}} z^{\frac{0}{4}} \right)^4 \quad \text{pangkat diluar kurung masuk} \\
 &= \dots^4 x^{\frac{1}{4} \cdot 4} y^{\frac{0}{4} \cdot 4} z^{\frac{0}{4} \cdot 4} \\
 &= \dots^4 x^{\dots} y^{\dots} z^{\dots}
 \end{aligned}$$