

詳 解

單元 1

結構式問題

建議題解

$$\begin{aligned} 1. \quad & \frac{a^{-7}}{(a^2)^4} \\ &= \frac{a^{-7}}{a^8} \\ &= a^{-15} \\ &= \frac{1}{a^{15}} \\ &= \underline{\underline{\frac{1}{a^{15}}}} \end{aligned}$$

$$\begin{aligned} 2. \quad & \frac{m^{-7}n^2}{m^4n^{-2}} \\ &= m^{-11}n^4 \\ &= \frac{n^4}{m^{11}} \\ &= \underline{\underline{\frac{n^4}{m^{11}}}} \end{aligned}$$

$$\begin{aligned} 3. \quad & \frac{x^{-4}}{(x^2y^{-3})^3} \\ &= \frac{x^{-4}}{x^6y^{-9}} \\ &= x^{-10}y^9 \\ &= \frac{y^9}{x^{10}} \\ &= \underline{\underline{\frac{y^9}{x^{10}}}} \end{aligned}$$

$$\begin{aligned} 4. \quad & \frac{(m^2n^{-1})^{-2}}{n^5} \\ &= \frac{m^{-4}n^2}{n^5} \\ &= m^{-4}n^{-3} \\ &= \frac{1}{m^4n^3} \\ &= \underline{\underline{\frac{1}{m^4n^3}}} \end{aligned}$$

$$\begin{aligned}
 5. \quad & \frac{(mn^4)^3}{m^{-6}n^{17}} \\
 &= \frac{m^3n^{12}}{m^{-6}n^{17}} \\
 &= m^9n^{-5} \\
 &= \frac{m^9}{\underline{\underline{n^5}}}
 \end{aligned}$$

$$\begin{aligned}
 6. \quad & \frac{x^2(xy^2)^3}{(x^8y^{-3})^2} \\
 &= \frac{x^2x^3y^6}{x^{16}y^{-6}} \\
 &= x^{-11}y^{12} \\
 &= \frac{y^{12}}{\underline{\underline{x^{11}}}}
 \end{aligned}$$

$$\begin{aligned}
 7. \quad & \frac{9m^{-2}(n^3)^0}{(3mn^{-1})^4} \\
 &= \frac{3^2m^{-2}(1)}{3^4m^4n^{-4}} \\
 &= 3^{-2}m^{-6}n^4 \\
 &= \frac{n^4}{\underline{\underline{9m^6}}}
 \end{aligned}$$

$$\begin{aligned}
 8. \quad & \frac{(2a^{-3}b)^4}{(4a^2b^{-5})^{-1}} \\
 &= \frac{2^4a^{-12}b^4}{2^{-2}a^{-2}b^5} \\
 &= 2^6a^{-10}b^{-1} \\
 &= \frac{64}{\underline{\underline{a^{10}b}}}
 \end{aligned}$$

多項選擇題

1. C

$$\begin{aligned}
 & (4a)^3 \bullet 2a^2 \\
 &= 4^3a^3 \bullet 2a^2 \\
 &= \underline{\underline{128a^5}}
 \end{aligned}$$

2 A

$$\begin{aligned} & 2y^4(2y - y) \\ &= 2y^4(y) \\ &= \underline{\underline{2y^5}} \end{aligned}$$

3. B

$$\begin{aligned} & 3^k \bullet 4^k \\ &= (3 \bullet 4)^k \\ &= \underline{\underline{12^k}} \end{aligned}$$

4. B

$$\begin{aligned} & 25^n \\ &= (5^2)^n \\ &= (5^n)^2 \\ &= \underline{\underline{x^2}} \end{aligned}$$

5. C

$$\begin{aligned} & \left(\frac{1}{8}\right)^{200} \bullet (-2^{200})^4 \\ &= (2^{-3})^{200} \bullet (-1)^4 \bullet (2^{800}) \\ &= 2^{-600} \bullet (2^{800}) \\ &= \underline{\underline{2^{200}}} \end{aligned}$$