詳 解

單元 1

結構式問題

建議題解

1. $\dfrac{a^{-7}}{(a^2)^4}$

$= \dfrac{a^{-7}}{a^8}$

$= a^{-15}$

$= \dfrac{1}{\underline{\underline{a^{15}}}}$

2. $\dfrac{m^{-7}n^2}{m^4 n^{-2}}$

$= m^{-11}n^4$

$= \dfrac{n^4}{\underline{\underline{m^{11}}}}$

3. $\dfrac{x^{-4}}{(x^2 y^{-3})^3}$

$= \dfrac{x^{-4}}{x^6 y^{-9}}$

$= x^{-10}y^9$

$= \dfrac{y^9}{\underline{\underline{x^{10}}}}$

4. $\dfrac{(m^2 n^{-1})^{-2}}{n^5}$

$= \dfrac{m^{-4}n^2}{n^5}$

$= m^{-4}n^{-3}$

$= \dfrac{1}{\underline{\underline{m^4 n^3}}}$

5. $\dfrac{(mn^4)^3}{m^{-6}n^{17}}$

$= \dfrac{m^3 n^{12}}{m^{-6}n^{17}}$

$= m^9 n^{-5}$

$= \underline{\underline{\dfrac{m^9}{n^5}}}$

6. $\dfrac{x^2(xy^2)^3}{(x^8 y^{-3})^2}$

$= \dfrac{x^2 x^3 y^6}{x^{16} y^{-6}}$

$= x^{-11} y^{12}$

$= \underline{\underline{\dfrac{y^{12}}{x^{11}}}}$

7. $\dfrac{9m^{-2}(n^3)^0}{(3mn^{-1})^4}$

$= \dfrac{3^2 m^{-2}(1)}{3^4 m^4 n^{-4}}$

$= 3^{-2} m^{-6} n^4$

$= \underline{\underline{\dfrac{n^4}{9m^6}}}$

8. $\dfrac{(2a^{-3}b)^4}{(4a^2 b^{-5})^{-1}}$

$= \dfrac{2^4 a^{-12} b^4}{2^{-2} a^{-2} b^5}$

$= 2^6 a^{-10} b^{-1}$

$= \underline{\underline{\dfrac{64}{a^{10} b}}}$

多項選擇題

1. 　$\boxed{\text{C}}$

$(4a)^3 \bullet 2a^2$

$= 4^3 a^3 \bullet 2a^2$

$= \underline{\underline{128a^5}}$

2 $\boxed{\text{A}}$

$2y^4(2y - y)$
$= 2y^4(y)$
$= \underline{\underline{2y^5}}$

3. $\boxed{\text{B}}$

$3^k \bullet 4^k$
$= (3 \bullet 4)^k$
$= \underline{\underline{12^k}}$

4. $\boxed{\text{B}}$

25^n
$= (5^2)^n$
$= (5^n)^2$
$= \underline{\underline{x^2}}$

5. $\boxed{\text{C}}$

$\left(\dfrac{1}{8}\right)^{200} \bullet (-2^{200})^4$
$= (2^{-3})^{200} \bullet (-1)^4 \bullet (2^{800})$
$= 2^{-600} \bullet (2^{800})$
$= \underline{\underline{2^{200}}}$