

Write each expression in simplest form.

This means to do everything you can to the expression but NO exponents should be left as zero or negative.

$$\begin{aligned}
 1. \quad (-8w^{-12})^{\frac{1}{3}} &= -8^{\frac{1}{3}} w^{-12 \cdot \frac{1}{3}} \\
 &= \sqrt[3]{-8} \cdot w^{-4} \\
 &= -2w^{-4} = \boxed{\frac{-2}{w^4}}
 \end{aligned}$$

$$\begin{aligned}
 2. \quad \left(\frac{m^6 p^{-3}}{p^1} \right)^{-\frac{1}{2}} &= \left(\frac{m^6}{p^{1+3}} \right)^{-\frac{1}{2}} = \left(\frac{p^4}{m^6} \right)^{-\frac{1}{2}} = \frac{p^{\frac{4}{2}}}{m^{\frac{6}{2}}} \\
 &= \boxed{\frac{p^2}{m^3}}
 \end{aligned}$$

$$\begin{aligned}
 3. \quad (g^{-\frac{5}{6}} h^{\frac{1}{4}})^{-12} &= g^{-\frac{5}{6} \cdot -12} h^{\frac{1}{4} \cdot -12} \\
 &= g^{10} h^{-3} \\
 &= \boxed{\frac{g^{10}}{h^3}}
 \end{aligned}$$

Simplify.

$$\begin{aligned}
 \sqrt[5]{7} \cdot \sqrt[5]{3} &= \sqrt[5]{7 \cdot 3} = \boxed{\sqrt[5]{21}} \\
 \sqrt[3]{Q^2} \cdot \sqrt{Q^5} &= Q^{\frac{2}{3}} \cdot Q^{\frac{5}{2}} = Q^{\frac{2}{3} + \frac{5}{2}} \\
 &= Q^{\frac{\frac{4}{6} + \frac{15}{6}}{1}} \\
 &= \boxed{Q^{\frac{19}{6}} \text{ or } \sqrt[6]{Q^{19}}}
 \end{aligned}$$

Simplify.

$$A^{\frac{3}{4}} \div A^{\frac{1}{6}} = A^{\frac{3}{4} - \frac{1}{6}} = A^{\frac{9}{12} - \frac{2}{12}} = A^{\frac{7}{12}} \text{ or } \sqrt[12]{A^7}$$