

Rewrite each of the following as a single power of 7.

1.  $(49^{\frac{1}{3}})(7^{-\frac{1}{4}})$

$$(7^2)^{\frac{1}{3}} = 7^{\frac{2}{3}} \cdot 7^{-\frac{1}{4}}$$

$$7^{\frac{8}{12}} \cdot 7^{-\frac{3}{12}} = \boxed{7^{\frac{5}{12}}}$$

2.  $\frac{\sqrt[3]{7}}{\sqrt{7}}$

$$\sqrt[3]{7} \div \sqrt{7}$$

$$7^{\frac{1}{3}} \div 7^{\frac{1}{2}} = 7^{\frac{2}{6}} \div 7^{\frac{3}{6}} = 7^{-\frac{1}{6}}$$

$$\boxed{\frac{1}{7^{\frac{1}{6}}}}$$