

Evaluate the following

$$4^{\frac{1}{3}} 4^{\frac{1}{6}}$$

$$\left(10^{\frac{2}{3}}\right)^{-\frac{9}{2}}$$

$$\frac{x^2}{\sqrt[3]{x}}$$

$$\left(4^{\frac{1}{3}}\right)^{-\frac{1}{3}}$$

$$m^{\frac{2}{3}} m^{\frac{4}{3}}$$

$$\frac{a^{\frac{5}{7}}}{a^{\frac{3}{2}}}$$

$$\left(\frac{y^{\frac{2}{3}}}{y^{\frac{1}{2}}}\right)^2$$

$$(d^{12} f^9)^{\frac{1}{3}}$$

$$\left(\left(10^{-\frac{2}{3}}\right)^{-\frac{9}{2}}\right)^3$$

$$\frac{\sqrt[5]{x+1}}{\sqrt{x+1}}$$

Prove that  $\frac{a}{\left(\sqrt[3]{ax}\right)^2} = \frac{\sqrt[3]{ax}}{x}$