## Fractional Roots $x^{\frac{m}{n}} = (\sqrt[n]{x})^m$ Ex. $\sqrt[3]{8^1} = 8^{\frac{1}{3}}$

(1) Change to radical $\sqrt{}$ form
(2) then use calculator

ex. $1024^{\frac{2}{5}}$

$(\sqrt[5]{1024})^2$

$(4)^2$

$\boxed{16}$

$1024^{\frac{2}{5}}$

$\sqrt[5]{(1024)^2}$

$\sqrt[5]{1048576}$

$\boxed{16}$

practice $128^{\frac{3}{7}}$

$(\sqrt[7]{128})^3$

$(2)^3$

$\boxed{8}$

practice $216^{\frac{2}{3}}$

$(\sqrt[3]{216})^2$

$(6)^2$

$\boxed{36}$

$x^{\frac{m}{n}}$ ← $m$ power, $n$ root

↑ base

* all laws of exponents still apply