

**Indices – Fractional  
and Negative**  
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Simplify each Non-Calc

$25^{\frac{1}{2}}$

$36^{\frac{1}{2}}$

$27^{\frac{1}{3}}$

$125^{\frac{1}{3}}$

$8^{\frac{1}{3}}$

$16^{\frac{1}{4}}$

$8^{\frac{2}{3}}$

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

$27^{\frac{2}{3}}$

$49^{\frac{1}{2}}$

$27^{\frac{2}{3}}$

$125^{\frac{1}{3}}$

$81^{\frac{1}{4}}$

$64^{\frac{1}{2}}$

$100^{\frac{3}{2}}$

$16^{\frac{3}{4}}$

$36^{\frac{3}{2}}$

$81^{\frac{3}{4}}$

$\left(\frac{25}{36}\right)^{\frac{1}{2}}$

$\left(\frac{8}{27}\right)^{\frac{1}{3}}$

$\left(\frac{36}{49}\right)^{\frac{1}{2}}$

$\left(\frac{100}{121}\right)^{\frac{1}{2}}$

$\left(\frac{27}{8}\right)^{\frac{2}{3}}$

$36^{-\frac{1}{2}}$

$27^{-\frac{1}{3}}$

$16^{-\frac{1}{2}}$

$8^{-\frac{2}{3}}$

$25^{-\frac{3}{2}}$

$100^{-\frac{1}{2}}$

$16^{-\frac{3}{4}}$

$81^{-\frac{3}{4}}$

$169^{-\frac{1}{2}}$

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

$100^{-\frac{3}{2}}$

$\left(\frac{36}{25}\right)^{-\frac{1}{2}}$

$\left(\frac{27}{8}\right)^{-\frac{1}{3}}$

$\left(\frac{125}{8}\right)^{-\frac{2}{3}}$

$\left(\frac{100}{49}\right)^{-\frac{1}{2}}$

$\left(\frac{81}{16}\right)^{-\frac{3}{4}}$

$\left(1\frac{9}{16}\right)^{-\frac{1}{2}}$

$0.01^{\frac{1}{2}}$

$125^{-\frac{2}{3}}$

**Harder Ones!**

Write  $16^x$  as a power 2

Write  $8^{x+2}$  as a power of 2