$\sqrt{}$ This is called a radical symbol

it indicates finding a root.

This is called the Index.
It tells what
root you are to find.

$\sqrt[n]{a}$

Nothing written here indicates
Square Root.

This is called the
Radicand

4^3	64
4^2	16
4^1	4
$4^{\frac{1}{2}}$	2
4^0	1

$a^{\frac{1}{n}} = \sqrt[n]{a}$

Rational Exponents represent radicals (roots)

$4^{\frac{1}{2}} = \sqrt{4} = 2$

$a^{\frac{m}{n}} = \sqrt[n]{a^m}$ or $(\sqrt[n]{a})^m$

Write in radical form.

This is Radical Form: $\sqrt[8]{g^5}$

1. $W^{\frac{1}{5}}$

$\sqrt[5]{w}$

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

$\frac{1}{\sqrt[3]{B^4}}$ or $\frac{1}{(\sqrt[3]{B})^4}$

or $\sqrt[3]{\frac{1}{B^4}}$

3. $C^{\frac{2}{9}}$

$\sqrt[9]{C^2}$

or $(\sqrt[9]{C})^2$

4. $P^{2.8} = P^{\frac{28}{10}}$ or $P^{\frac{14}{5}}$

$\sqrt[10]{P^{28}}$

or $\sqrt[5]{P^{14}}$

Write in exponential form:

This is Exponential Form: $a^{\frac{6}{7}}$

a. $\sqrt[3]{G^5}$ $G^{\frac{5}{3}}$

b. $\sqrt[6]{R}$ $R^{\frac{1}{6}}$

c. $\sqrt{B^7}$ $B^{\frac{7}{2}}$

e. $\sqrt[4]{3K}$ $(3K)^{1/4}$

d. $5\sqrt[3]{G}$

$= 5(G)^{\frac{1}{3}}$

or

$= (5)G^{1/3}$

or

$= 5G^{1/3}$

Simplify. No exponents that are zero or negative.

1. $(-8w^{-12})^{\frac{1}{3}}$

$-8^{1/3}(w^{-12})^{1/3}$

$\sqrt[3]{-8}$

$-2 \quad w^{-4}$

$= \frac{-2}{w^4}$

2.