

8th Grade Lesson 71

- I can evaluate powers of fractions.
- I can evaluate roots of fractions.



Exponential Expression

2^3 ← exponent
"power"

base → 2

$2 \cdot 2 \cdot 2 = 8$

the exponent tells you
how many times to use the
base as a factor

$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

$(\frac{1}{2})^2 \neq \frac{1}{2^2}$

$(\frac{1}{2})^2 = \frac{1^2}{2^2} = \frac{1}{4}$

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

$$\frac{2}{3} \cdot \frac{2}{3} = \frac{4}{9}$$

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

$$\frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} = \frac{27}{64}$$

radical expression \rightarrow $\sqrt[3]{\text{number}}$

"What number used as a factor three times equals the given number?"

$$\sqrt[3]{\frac{1}{64}}$$
$$\frac{\sqrt[3]{1}}{\sqrt[3]{64}} = \frac{1}{4}$$

$$\sqrt{\frac{9}{16}} = \frac{3}{4}$$

$$\sqrt[3]{\frac{8}{27}} = \frac{2}{3}$$



Assignment:

Problem Set 71 #1-7, 11-13, 17-24