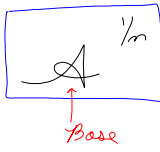


August 31, 2015
 Quiz #2 - Wednesday
 Prep Handout - Re-Do!
 Quiz #3 - 8.1

Aug 31-9:59 AM

8.1  Def: If $a > 0$ & n is positive, then $a^{1/n}$ is the n^{th} root of a .
 So, $a^{1/n}$ is a number that when raised to n is a .

e.g.
 Exponential $49^{1/2} = (7)^2 = 49$
 Radical $\sqrt[2]{49} = \sqrt{(7)^2} = 7$
 because $7^2 = 49$

Aug 31-10:06 AM

$$8^{2/3} = (8^{1/3})^2 = (2)^2 = 4$$

$(2)^3 = 8$

$$\left(\sqrt[3]{8^1}\right)^2$$

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

$$(2)^2 = 4$$

Aug 31-10:18 AM

$$16^{3/4} = (16^{1/4})^3 = (2)^3 = 8$$

$$(2)^4 = 16$$

Rules of Rational Exponents

#1) $A^{m/n} = (A^{1/n})^m$ or $(A^m)^{1/n}$

$$16^{3/4} = (16^{1/4})^3$$
 or $(16^3)^{1/4}$

#2) $A^m \cdot A^n = A^{m+n}$
 Same Base

$$\frac{A^m}{A^n} = A^{m-n}$$

$$\frac{x^3}{x^2} = \frac{\cancel{x} \cdot \cancel{x} \cdot x}{\cancel{x} \cdot \cancel{x}} = x^1$$

$$x^{3-2} = x^1$$

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#3) $(A^m)^n = A^{m \cdot n}$

#4) $(A \cdot B)^n = A^n \cdot B^n$

$$(2x)^3 = (2x) \cdot (2x) \cdot (2x) = 8x^3$$

$$2^3 \cdot x^3 = 8x^3$$

#5) $A^{-n} = \frac{1}{A^n}$ ← new parting

$$\frac{1}{A^n} = \frac{A^n}{1} = A^{-n}$$

Aug 31-10:43 AM

Show Turn In Tomorrow!

$$\left(\frac{x}{y}\right)^{-2} = \left(\frac{y}{x}\right)^2 = \frac{y^2}{x^2}$$

Aug 31-10:47 AM