AAT

Scientific Notation

- a way to write larger or smaller number easier

ex1 $1,270,000$

1.27×10^{6} ← # of jumps

* a positive exp → go right
* a negative exp → go left

ex2 $3,104,590,000$

3.1045×10^{8}

ex3 0.000452

4.52×10^{-4}

ex4 2.6×10^{4}

$26,000$

ex5 -1.72×10^{-6}

-0.00000172

Radicals

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

examples: rewrite & simplify

1. $\sqrt{x^7} = x^{7/2}$
2. $2x(\sqrt[4]{x}) = 2x \cdot x^{1/4} = 2x^{5/4}$
3. $K^{-2/3} = \frac{1}{K^{2/3}} = \frac{1}{\sqrt[3]{K^2}}$
4. $16^{3/2} = (\sqrt{16})^3 = 4^3 = 64$
5. $27^{2/3} = (\sqrt[3]{27})^2 = 3^2 = 9$

Rationalizing

* no $\sqrt{\ }$ in denominator

examples

1. $\frac{2}{\sqrt{3}}\left(\frac{\sqrt{3}}{\sqrt{3}}\right) = \frac{2\sqrt{3}}{3}$

2. $\frac{4\sqrt{7}}{\sqrt{2}}\left(\frac{\sqrt{2}}{\sqrt{2}}\right) = \frac{4\sqrt{14}}{2}$

$= 2\sqrt{14}$