## Algebra 2

5-00 Properties of Exponents

## Properties of Rational Exponents

$$
\begin{gathered}
x^{m} \cdot x^{n}=x^{m+n} \\
(x y)^{m}=x^{m} y^{m} \\
\left(x^{m}\right)^{n}=x^{m n} \\
\frac{x^{m}}{x^{n}}=x^{m-n} \\
\left(\frac{x}{y}\right)^{m}=\frac{x^{m}}{y^{m}} \\
x^{-m}=\frac{1}{x^{m}}
\end{gathered}
$$

$$
x^{-4} x^{3}
$$

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

$$
\left(3^{2} x^{2} y\right)^{2}
$$

$$
\frac{12 x^{5} a^{2}}{2 x^{4}} \cdot \frac{2 a}{3 a^{2}}
$$

$\frac{5 x^{2} y^{-3}}{8 x^{-4}} \cdot \frac{4 x^{-3} y^{2}}{10 x^{-2} z^{0}}$

Solve for $\mathrm{y}: 2 x+3 y=9$
Solve for $\mathrm{y}: ~ y+2 x y=10$

