Algebra: Addends & Products & Powers

Dr. Stan Hartzler Archer City High School

As a high school freshman in 1961, this writer had trouble with much of the basic simplification material that follows. Listing a few instructive examples inside the back cover of his Algebra One textbook was extremely helpful. The list grew as the course progressed.

The writer's students are encouraged to paste a list like this inside the back covers of their algebra textbooks, or to write a similar list, for quick reference. Several weeks of getting things right is often needed before independence is obtained.

Addends	**Products**	**Powers**
$3+3+3+3=4\bullet 3$	$3\bullet 3\bullet 3\bullet 3=3^4=81$	$a^{2\ 3}=a^6$
$\sqrt{2}+\sqrt{2}+\sqrt{2}+\sqrt{3}=3\sqrt{2}+\sqrt{3}$	$\sqrt{2}\sqrt{2}=2$	$\sqrt{2}^{\ 2}=2$
$x+x+x+y=3x+y$	$\sqrt{2}\sqrt{3}=\sqrt{6}$	$x^{\frac{3}{4}}=\sqrt[4]{x}^{\ 3}$
$y^2+y^2+y^2+y^4=3y^2+y^4$	$a^3\bullet a^2=a^5$	$x^{-1}=\frac{1}{x}\qquad y^{-2}=\frac{1}{y^2}$
$3z^2+2z^2=5z^2$	$3w^3\bullet 2w^2=6w^5$	$3p^{2\ 4}=81p^8$