

## CARD MATCHING

Cut out the following cards. Then, group the example card and equivalent expression cards with the property they demonstrate.

<p><b>Power of a Power</b></p> <p>When taking a power to a power, keep the base and multiply the exponents.</p>	<p><b>Power of a Product</b></p> <p>Take each base to the power (“distribute” the power because a and b are multiplied, not <math>\pm</math>).</p>	<p><b>Product of Powers</b></p> <p>When multiplying like bases, keep the base and add the exponents.</p>
<p><b>Zero Exponent</b></p> <p>Any non-zero number to the 0<sup>th</sup> power is one.</p>	<p><b>Negative Exponents</b></p> <p>When the exponent is negative, move the base to the other side of the fraction bar and change the sign of the exponent.</p>	<p><b>Quotient of Powers</b></p> <p>When dividing like bases, keep the base and subtract the exponents.</p>
<p><b>Power of a Quotient</b></p> <p>Take each base to the power (“distribute” the power because a and b are divided, not <math>\pm</math>).</p>	$\begin{aligned} (-3 \cdot 5)^2 &= (-3)^2 \cdot 5^2 \\ &= 9 \cdot 25 \\ &= 225 \end{aligned}$	$\begin{aligned} (3)^{-2} &= \frac{1}{3^2} \\ &= \frac{1}{9} \end{aligned}$
$\begin{aligned} \frac{3^{12}}{3^8} &= 3^4 \\ &= 81 \end{aligned}$	$\begin{aligned} \left(\frac{4}{5}\right)^2 &= \frac{4^2}{5^2} \\ &= \frac{16}{25} \end{aligned}$	$\begin{aligned} (2^3)^2 &= 2^6 \\ &= 64 \end{aligned}$

$(-2)^{-1} \cdot (-2)^4 = (-2)^3$ $= 8$	$(-5,287)^0 = 1$	
$a^m \cdot b^m$	$1, a \neq 0$	$\frac{1}{a^m}, a \neq 0$
$a^{m-n}$	$(a^m)^n$	$(a \cdot b)^m$
$a^{-m}, a \neq 0$	$a^0, a \neq 0$	$\left(\frac{a}{b}\right)^m$
$\frac{a^m}{b^m}$	$\frac{a^m}{a^n}$	$a^{m \cdot n}$
$a^m \cdot a^n$	$a^{m+n}$	