Name: _____ Date: _____

BLM 3.3.5

Student Success: Exponent Law for Powers of Powers

Complete the table below. Make up your own questions for the blank rows.

Product	Expanded Form	Single Power
$\left(x^4\right)^2$	$=\left(x\times x\times x\times x\right)\times\left(x\times x\times x\times x\right)$	$=x^8$
$\left(y^3\right)^4$	$=\left(y\times y\times y\right)\times\left(y\times y\times y\right)\times\left(y\times y\times y\right)\times\left(y\times y\times y\right)$	$=y^{12}$
$\left(m^3\right)^2$	$=$	$=$
$\left(g^2\right)^5$	$=$	$=$
$\left(t^4\right)^3$	$=$	$=$
$\left(w^5\right)^4$	$=$	$=$
$\left(k^6\right)^2$	$=$	$=$
$\left(r^3\right)^3$	$=$	$=$
	$=$	$=$
	$=$	$=$
$\left(x^a\right)^b$	$=$	$=$
	Do these using your shortcut, without the middle step	
$\left(m^3\right)^5$		$=$
$\left(q^8\right)^6$		$=$
$\left(x^{10}\right)^4$		$=$
$\left(n^7\right)^8$		$=$
$\left(a^3b^4\right)^5$		$=$
		$=$

Complete this statement: When simplifying powers of powers

_____