

Name: _____

Date: _____

BLM 3-3

Exponent Laws

	Exponent Law	Example
Exponent of 1	$x^1 = x$	$7^1 = 7$
Exponent of 0	$x^0 = 1$	$(-7)^0 = 1$
Multiplying Powers	$x^a \times x^b = x^{a+b}$	$4^2 \times 4^3 = 4^{2+3}$ $= 4^5$
Dividing Powers	$x^a \div x^b = x^{a-b}$	$3^7 \times 3^3 = 3^{7-3}$ $= 3^4$
Raising a Power to an Exponent	$(x^a)^b = x^{a \times b}$	$(5^3)^2 = 5^{3 \times 2}$ $= 5^6$
Raising a Product to an Exponent	$(x \times y)^a = x^a \times y^a$	$(5 \times 6)^3 = 5^3 \times 6^3$
Raising a Quotient to an Exponent	$\left(\frac{x}{y}\right)^a = \frac{x^a}{y^a}$	$\left(\frac{5}{3}\right)^4 = \frac{5^4}{3^4}$

