Common Core Math II Honors Unit 3 Day 1 (Common Core Math I Review)

Exponent Rules

	Rule	Example
Product of Powers	$a^m \bullet a^n = a^{m+n}$	$5^4 \bullet 5^3 = 5^{4+3} = 5^7$
Power of Powers	$\left(a^m\right)^n = a^{m \bullet n}$	$\left(x^6\right)^3 = x^{6 \bullet 3} = x^{18}$
Power of Products	$(ab)^m = a^m b^m$	$(yz)^7 = y^7 z^7$
Power of Monomials	$\left(a^m b^n\right)^p = a^{m \bullet p} b^{n \bullet p}$	$\left(5^7 g^2\right)^4 = 5^{7 \bullet 4} g^{2 \bullet 4} = 5^{28} g^8$
Quotient of Powers	$\frac{a^m}{a^n} = a^{m-n}$	$\frac{k^8}{k^5} = k^{8-5} = k^3$
Negative Powers	$a^{-m} = \frac{1}{a^m}$; $\frac{1}{a^{-m}} = a^m$	$c^{-9} = \frac{1}{c^9}$; $\frac{1}{4^{-7}} = 4^7$
Zero Power	$a^0 = 1$	$15^0 = 1$; $q^0 = 1$