

Expo and Log Cheat Sheet by Snith via cheatography.com/185705/cs/38840/

Laws of exponents				
a ^m × a ⁿ	=	a ^{m + n}		
$a^m \div a^n$	=	a ^{m - n}		
(a ^m) ⁿ	=	a ^{mn}		
(a / b) ^m	=	a ^m / b ^m		
(a ± b) ^m		a ^m ± b ^m		
a ^{-m}	=	1 / a ^m		
a ^{m / n}	=	ⁿ √a ^m		
1 ^a	=	1		
a ⁰	=	1		
0 ^a	=	0		
00	\rightarrow	not defined		

Operations					
a $^{n}\sqrt{c} \pm b ^{n}\sqrt{c}$	=	(a ± b) ⁿ √c			
a $^{n}\sqrt{c} \times b ^{n}\sqrt{d}$	=	(a × b) $^{n}\sqrt{(c \times d)}$			
Conjugate					
$^{n}\sqrt{a}$ + $^{n}\sqrt{b}$	\rightarrow	ⁿ √a - ⁿ √b			
ⁿ √a - ⁿ √b	\rightarrow	$^{n}\sqrt{a}$ + $^{n}\sqrt{b}$			
Finding the root of $x \pm 2\sqrt{y}$					
$\sqrt{((a+b)+2\sqrt{ab)}} = \sqrt{a} + \sqrt{b}$					

Radicals		
even root of positive number	\rightarrow	postive and negative
even root of negative number	\rightarrow	none
odd root of positive number	\rightarrow	positive
odd root of negative number	\rightarrow	negative

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Properties of logarithms

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