## Cheatography

## College and Advanced Algebra –1st Cheat Sheet by Khionne (khionne) via cheatography.com/193579/cs/40286/

Order of Operations	Law of Inclusion and Exclusion	RULES OF EXPONENT		Special Products: Square of a	
BODMAS / PEMDAS	PROBLEM SETS	Multiplication Rule	$a^x \times a^y =$	Binomial	
B - Brackets: Perform operations inside parentheses or brackets first.	For three sets A, B, and C:  A ∪ B ∪ C  =  A  +  B  +  C  -  A ∩ B  -  A ∩ C  -  B ∩ C  +  A ∩ B ∩	Division Rule Power of a Power Rule Power of a Product Rule	$a^{x} \div a^{y} = a^{x}$ $\left(a^{x}\right)^{y} = a^{x}$	$\frac{a^{x} \times a^{y} = a^{x+y}}{a^{x} \div a^{y} = a^{x-y}}$ Products in algebra have $\frac{a^{x}}{a^{y}} = a^{x-y}$ patterns that occur frequently • These patterns are called	
O - Orders: Evaluate expres- sions with exponents (powers and roots).	C  and $ A \cap B \cap C  =  A \cap B \cap C  -  A  -$	Power of a Fraction Rule	$\left(\frac{a}{b}\right)^x = \frac{a^x}{b^x}$	$\frac{b^{x} \text{special products}}{(x + y)^{2} = x^{2} + 2xy + y^{2} \text{ (Square of a sum)}}$	
<ul> <li>D - Division: Perform division</li> <li>from left to right.</li> <li>M - Multiplication: Perform</li> <li>multiplication from left to right.</li> <li>A - Addition: Perform addition</li> </ul>	B  -  C  +  A ∩ B  +  A ∩ C  +  B ∩         C          THE FOIL METHOD         FOIL - is sometimes used to	Zero Exponent Negative Exponent Fractional Exponent	$a^{0} = 1$ $a^{-x} = \frac{1}{a^{x}}$	$(x - y)^2 = x^2 - 2xy + y^2$ (Square of a difference)	
			$a^{\frac{x}{y}} = \sqrt[y]{a^x}$	al Product Product of Sum and Difference	
from left to right. S - Subtraction: Perform subtra- ction from left to right.	find the product of two binomials. We multiply,	Special Products Product of a binomial ar	nd a	of Two Terms (a + b)(a - b) = a2 - b2	
SPECIAL PRODUCTS INVOLVING CUBES	<ul> <li>the First terms,</li> <li>the Outer terms,</li> <li>the Inner terms, and then</li> </ul>	trinomial of the form. (a + b)(c + d + e) = ac + ad + ae $+ bc + bd + be$ Monomial= 2y <sup>2</sup> , 2 Binomial = (2y <sup>2</sup> -2) Trinomial = (2y <sup>3</sup> +y <sup>2</sup> +2)			
The products are just the result of multiplying out the bracket. (x + y)3 = x3 + 3x2y + 3xy2 + y3	the Last terms of each binomials.				
(Cube of a sum) (x - y)3 = x3 - 3x2y + 3xy2 - y3	Venn Diagram				
(Cube of a difference) (x + y)(x2 - xy + y2) = x3 + y3 (Sum of 2 cubes) (x - y)(x2 + xy + y2) = x3 - y3	Set A A' the complement	B at of A			
(Difference of 2 cubes	U $A  and  B  are disjoint sets$ $U$ $B  is proper subset of  A$				
	A intersect B A union B				
	$\begin{array}{c} u \\ \hline \\ \\ \hline \\ \\ \\ u \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$				

By **Khionne** (khionne) cheatography.com/khionne/ Not published yet. Last updated 13th September, 2023. Page 1 of 1. Sponsored by CrosswordCheats.com Learn to solve cryptic crosswords! http://crosswordcheats.com