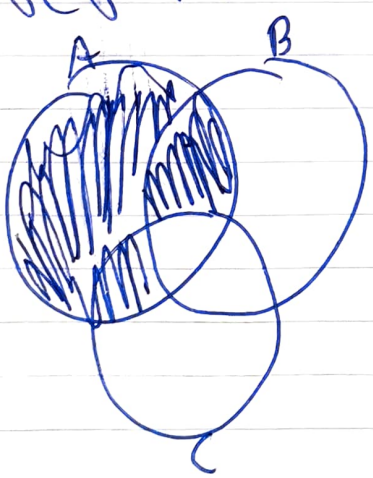
$A - (B \cap C) = (A - B) \cup (A - C)$

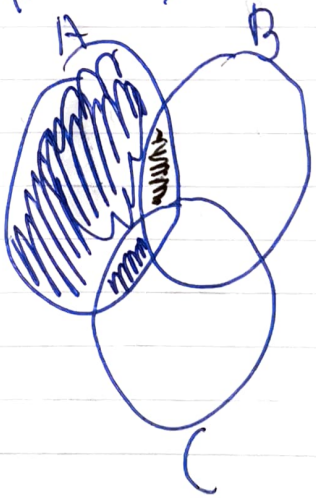
$A - B == A \cap \bar{B}$

$A \cap (\overline{B \cap C})$	set subtraction
$A \cap (\bar{B} \cup \bar{C})$	De Morgan's law
$(A \cap \bar{B}) \cup (A \cap \bar{C})$	Distributive laws
$(A - B) \cup (A - C)$	Substitute

$A - (B \cap C)$



$(A - B) \cup (A - C)$



This proves the sets are equal because the two Venn diagrams represent the same resultant set.

$g: N \to N \quad g(n) = 4n^2 - 1$

Issue is, at $g(0) = -1$, -1 is not in the set of N. So this function is invalid.

A function is an injection if for all a, b, and $f(a) = f(b)$, $a = b$.

$g(n)$ is a one to one function for the domain and range of N.

$g(a) = g(b)$

$4a^2 - 1 = 4b^2 - 1$

$4a^2 = 4b^2$

$a^2 = b^2$

$a = b$ for all natural numbers.

A function from X to Y is an onto function if for every $b \in Y$ there exists an element $a \in X$ such that $f(a) = f(b)$.

$g(n)$ is not onto for the range of N.

At $b = 0$, there is no real number in $a \in N$ that satisfies $g(a) = 0$.

$a_n = (2n)(a_n - 1)$

$a_0 = 1$

$a_1 = (2)(1)(a_0) = 2$

$a_2 = (2)(2)(a_1) = 8$

$a_3 = (2)(3)(a_2) = 48$

$a_4 = (2)(4)(a_3) = 384$

$a_5 = (2)(5)(a_4) = 3840$

$a_x = 2^x \cdot x!$