Formal Lang Assignment 1

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1. The intersection is {3}
2. The union is {1,2,3,a,b}
3. A/B = {1,2}
4. B/A = {a,b}
5. Power set of A = {{1 },{2},{3},{1,2},{1,3},{2,3},{1,2,3}}
6. Power set of B = {{a},{b},{3},{a,b},{a,3},{b,3},{a,b,3}}

Truth Table for A implies B

A	B	$A \rightarrow B$
T	T	T
T	F	F
F	T	T
F	F	T

Proof by induction:
(n+1)*n= 2*(1+2+...+n)
@ n = 1 : (1+1) * 1 = 2*(1) = 2
@ n=k+1 : (k+2)*(k+1)=2*(1+2+...+k+k+1)
(k+2)*(k+1)=(k+1)*k+2*(k+1)
(k+2)*(k+1)=(k+2)*(k+1)