Name:	
Pid.	

1. Show that for any positive integer n, $\sum_{i=0}^{n} x^{i} = \frac{1-x^{n+1}}{1-x}$.

Solution:	
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2. Let A_1, \ldots, A_n , and B be some sets. Show that $\bigcup_{i=1}^n (A_i \cap B) = (\bigcup_{i=1}^n A_i) \cap B$.

Solution:

3. Show that $\sum_{i=1}^{n} \frac{1}{i(i+1)} = \frac{n}{n+1}$.

Solution: