Math 172 WS 1a   Practice computational problems

1. If $\Delta A = 0.2$ and $A(1) = 5$, write the recurrence equation for $A(t+1)$ in terms of $A(t)$. Then find an explicit formula for $A(t)$ in terms of t. Be careful!! Notice that this amounts to recovering the *static model* from the *dynamic model* with one data point. You can *check* your answer by taking your formula for $A(t)$ and computing ΔA as well as $A(1)$. Do these agree with the original information?

2. If $\Delta B = -0.04B(n)$ and $B(0) = 1000$ find an explicit formula for $B(n)$ in terms of n (you might want to rewrite the dynamic model first). Notice that this amounts to recovering the *static model* from the *dynamic model* with one data point. You can *check* your answer by taking your formula for $B(n)$ and computing ΔB as well as $B(0)$. Do these agree with the original information? If $B(n)$ represents a population, what are the long term prospects after many, many generations?