

**3)** (10 pts) ANL (Summations and Recurrence Relations)

Find the Big-Oh solution to the following recurrence relation using the iteration technique. Please show all of your work, including 3 iterations, followed by guessing the general form of an iteration and completing the solution. Full credit will only be given if all of the work is accurate (and not just for arriving at the correct answer.)

$$T(n) = 2T\left(\frac{n}{2}\right) + n^2, T(1) = 1$$