

**3) (5 pts) ANL (Recurrence Relations)**

Using the iteration technique, just solve for the **next two** iterations of the following recurrence relation:

$$T(n) = 3T(n - 1) + n^2, \text{ for integers } n > 0$$
$$T(0) = 1$$

Your answers should be of the form

$$T(n) = aT(n - 2) + bn^2 - cn + d \text{ and}$$

$$T(n) = eT(n - 3) + fn^2 - gn + h, \text{ where } a, b, c, d, e, f, g, \text{ and } h \text{ are positive integers.}$$