

### Practice with Recurrence Relations

Solve the following recurrence relations using the iteration technique:

1)  $T(n) = T(n - 1) + 2, T(1) = 1$

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Substituting Equations

2)  $T(n) = 2T(n/2) + n, T(1) = 1$

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Substituting Equations

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

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Substituting Equations  
 $n \rightarrow n/2$

4)  $T(n) = T(n - 1) + n, T(1) = 1$

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Substituting Equations

$n \rightarrow n-1$