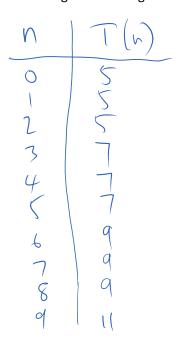
Example 1:
$$T(n) = T(n-3)+2$$
 for $n > 0$; $T(0) = T(1)=T(2)=5$.

Step 1: Calculate the first few values to get some insight and understanding



Step 2: Expand the definition and look for a pattern

Step 3: check agreement with step 1. Also use an online tool like Wolfram

Example 2:
$$T(n) = 5T(n-1) - 3$$
, $T(0) = 2$

Step 1: Calculate the first few values to get some insight and understanding

Step 2: Expand the definition and look for a pattern

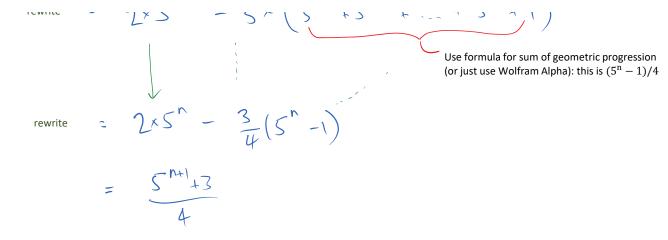
$$T(n) = ST(n-1) - 3$$

$$expand = S^{2} T(n-2) - 3 \times 5 - 3$$

$$expand = S^{3} (T(n-3) - 3 \times 5^{-3}) - 3 \times 5^{-3}$$

$$rewrite = S^{3} T(n-3) - 3 \times S^{2} - 3 \times 5^{-3}$$

$$rewrite = 2 \times 5^{n} - 3 \times (5^{n-1} + 5^{n-2} + 5 + 1)$$
Use formula for sum of geometric progression



Step 3: check agreement with step 1. Also use an online tool like Wolfram Alpha to check the answer.



