1. Define the recursive sequence

\[ a_1 = 1, \ a_2 = 4 \ \text{and} \ a_n = 2a_{n-1} - a_{n-2} \ \text{for} \ n \geq 3. \]

Use strong induction to prove that \( a_n = 3n - 2 \) for all \( n \in \mathbb{N} \).

Solution:
2. Use strong induction to prove that any postage greater than or equal to 12 cents can be made from 4 and 5 cent stamps.

   Solution: