

## Explicit and Recursive Formulas

- For each sequence:
- Write the first 5 terms.
  - If the formula is explicit, find a recursive formula. OR  
If the formula is recursive, find an explicit formula.
  - Prove the explicit formula is equivalent to the recursive formula.

1. 
$$\begin{cases} a_1 = 2 \\ a_{k+1} = 3a_k \end{cases}$$

2. 
$$b_n = 3n - 5$$

3. 
$$\begin{cases} c_1 = -1 \\ c_{k+1} = c_k + 5 \end{cases}$$

4. 
$$\begin{cases} d_1 = 4 \\ d_{k+1} = d_k + 2k + 4 \end{cases}$$

$$5. h_n = 5n$$

$$6. f_n = n^2 - 1$$

$$7. \begin{cases} g_1 = 2 \\ g_{k+1} = 3g_k - 2 \end{cases}$$

$$8. \begin{cases} e_1 = 1 \\ e_{k+1} = (k+1)e_k \end{cases}$$