Fibonacci & Fibonacci-type Sequences

For questions 1 and 2, determine if the given sequence is a Fibonacci-type sequence or not. If it is, find the next two terms in the sequence.

1. $\frac{1}{4}, \frac{1}{4}, \frac{1}{2}, \frac{3}{4}, \frac{1}{4}, 2, \ldots$

2. $-4, 3, -1, 2, 1, 3, \ldots$

For question 3, use the given recursive form of the $n^{th}$ term of the Fibonacci-type sequence and its initial terms to find the formula for the closed form of $a_n$.

3. $a_{n+1} = 35 \cdot a_{n-1} - 2 \cdot a_{n-1}, \quad a_0 = -1, \quad a_1 = 0$

For questions 4 and 5, determine whether the given sequence is the Fibonacci sequence, a Fibonacci-type sequence, or some other type of sequence. Find the next two terms in the sequence. Find the recursive formula for the $n^{th}$ term of the sequence. Find the closed form of the $n^{th}$ term of the sequence.

4. $0, 1, 1, 3, 5, 11, \ldots$

5. $1, 4, 9, 16, 25, 36, \ldots$