**Fibonacci Sequences**

Determine whether each of these sequences is a Fibonacci-like sequence.

(a) $1, 1, 2, 3, 5, 8, 13,…$

(b) $1, 2, 3, 6, 11, 20, 37,…$

(c) $2, 4, 6, 10, 16, 26,…$

(d) $-1, 3, 2, 5, 7, 12,…$

Fill in the missing terms in each of these Fibonacci-like sequences.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 1 | 3 |  |  |  |  |  |  |
| 2 | 7 |  |  |  |  |  |  |
|  | 5 | 7 |  |  |  |  |  |
|  | 7 |  | 18 |  |  |  |  |
|  |  | 20 | 33 |  |  |  |  |
| -2 | 4 |  |  |  |  |  |  |
|  | 10 |  | 19 |  |  |  |  |
|  |  |  |  |  | 6 |  | 15 |

(a) Milly think that $70$ is in the Fibonacci-like sequence that starts $6, 10, 16, 26,…$ Is Milly correct? Explain your answer.

(b) A Fibonacci-like sequence contains the third term $10$. Suggest two possible sequences, and give their first five terms.

(c) The sum of the first three terms of a Fibonacci-like sequence is zero. What is the third term?

(d) The first two terms of a Fibonacci-like sequence are $a$ and $2a$. Find the next five terms of the sequence.

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