Answers to Concept Quiz 4.3

1. **Fibonacci Video Error** What is the error in the Fibonacci video's Concept check/Review ?

   He defines a recursive sequence $b_0 = 2$, $b_1 = 5$, and $b_n = b_{n-1} - b_n$. The last subscript n is supposed to be $n - 2$, and he used that, but did not notice or correct the error.

2. **Fibonacci Sequence** Please give a definition of the Fibonacci sequence.

   The Fibonacci sequence $\{f_n \mid n \geq 1\}$ is defined recursively by $f_1 := 1$, $f_2 := 2$, and for $n \geq 2$, $f_n := f_{n-1} + f_{n-2}$.

3. **More Fibonacci** Which of the following are **not** related to the Fibonacci sequence?

   - ✓ Golden ratio $\lim_{n \to \infty} f_{n+1}/f_n = \phi$
   - ✓ Syllables in Sanskrit   Yes, they appear here.
   - ✗ Orb weaver spider webs   The reference on this on the web is bogus, it equates spiral to Fibonacci spiral.
   - ✓ Rabbits   The original source by Fibonacci
   - ✓ Sunflowers   The interleaving spirals on sunflowers are consecutive Fibonacci numbers