1. Compute the values of the following infinite continued fractions:

(a) $\overline{1/4}$ (b) $\overline{1/k}$ for an arbitrary positive integer k.

(c) $\overline{1/2 + 1/3}$ and $1/1 + \overline{1/2 + 1/3}$

(d) $\overline{1/1 + 1/2 + 1/1 + 1/6}$ and $1/1 + 1/4 + \overline{1/1 + 1/2 + 1/1 + 1/6}$

(e) $\overline{1/2 + 1/3 + 1/5}$

2. Compute the continued fractions for $\sqrt{5}$ and $\sqrt{23}$.

3. Compute the continued fractions for $\sqrt{n^2 + 1}$ and $\sqrt{n^2 + n}$ where n is an arbitrary positive integer.