Solving Square-Root Palindromes

Figure 1. Mathematica Display

\[
\text{Solve}\left[n + z \rightarrow 2 n + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\ldots}}}}}, x\right]
\]

\[
\text{Solve}\left[n + z \rightarrow 2 n + \frac{1}{k + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\ldots}}}}}}, x\right]
\]

Figure 2. A Continued Fraction with Variables

\[
\text{Solve}\left[n + z \rightarrow 2 n + \frac{1}{k + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\ldots}}}}}}, x\right]
\]

Figure 3. The Palindrome 1, 2, 3, 4, 5, 4, 3, 2, 1