Ruutjuure leidmine

$$A \Rightarrow 0,\, a_{-1}\; a_{-2} \ldots a_{-n}$$

$$\sqrt{A} = B = 0,\, b_{-1}\; b_{-2} \ldots b_{-n}$$

Kui $b_{-1} = 1$, siis

$$A - (0{,}1)^2 \geq 0$$

$$A - 0{,}01 \quad \geq 0$$

$$A + 1{,}11 \;\; \geq 0$$

Kui $b_{-2} = 1$, siis

$$A - (0{,}b_{-1} + + 0{,}01)^2 \geq 0$$

$$A - ((0{,}b_{-1})^2 + 2 \cdot 0{,}b_{-1} \cdot 0{,}01 + 0{,}0001) \geq 0$$

$$(A - (0{,}b_{-1})^2) - 2^{-1}(0{,}b_{-1} + 2^{-3}) \geq 0$$

$$(A - (0{,}b_{-1})^2) - 2^{-1}(0{,}b_{-1}01) \geq 0$$

$$2(A - (0{,}b_{-1})^2) - 0{,}b_{-1}01 \geq 0$$

$$2(A - (0{,}b_{-1})^2) + 1{,}\overline{b_{-1}}11 \geq 0$$

Kui $b_{-3} = 1$, siis

$$A - (0,b_{-1}b_{-2} + 0,001)^2 \geq 0$$

$$A - (0,b_{-1}b_{-2})^2 - 2 \cdot 0,b_{-1}b_{-2} \cdot 2^{-3} - 2^{-6} \geq 0$$

$$A - (0,b_{-1}b_{-2})^2 - 2^{-2} \cdot (0,b_{-1}b_{-2} + 2^{-4}) \geq 0$$

$$2^2 (A - (0,b_{-1}b_{-2})^2) - (0,b_{-1}b_{-2} + 2^{-4}) \geq 0$$

$$2^2 (A - (0,b_{-1}b_{-2})^2) + (1,\overline{b_{-1}}\,\overline{b_{-2}}11) \geq 0$$

jne.

N: $A = 0{,}1001$

$A - 0{,}01 \gtrless 0$

$$
\begin{array}{r}
00{,}1001 \\
+\;\underline{11{,}1100} \\
00{,}0101
\end{array}
$$

$b_{-1} = 1$

$A - (0{,}1\overset{\overset{b_{-1}}{\downarrow}}{1})^2 \gtrless 0$

$$
\begin{array}{rl}
00{,}1010 & \xleftarrow{\;1\;} \\
\underline{11{,}0110} & \\
00{,}0000 &
\end{array}
$$

$b_{-2} = 1$

$A - (0{,}\overset{\overset{b_{-1}}{\downarrow}}{1}\ \overset{\overset{b_{-2}}{\downarrow}}{1}\ 1)^2 \gtrless 0$

$$
\begin{array}{rl}
00{,}0000 & \xleftarrow{\;1\;} \\
\underline{11{,}0011} & \\
11{,}0011 &
\end{array}
$$

$b_{-3} = 0$

$A - (0{,}\overset{\overset{b_{-1}}{\downarrow}}{1}\ \overset{\overset{b_{-2}}{\downarrow}}{1}\ \overset{\overset{b_{-3}}{\swarrow}}{0}\ 1)^2 \gtrless 0$

$$
\begin{array}{r}
00{,}0000(0) \\
\underline{11{,}0011(1)} \\
11{,}0011\ 1
\end{array}
$$

$b_{-4} = 0$

$$\sqrt{\frac{9}{16}} = \frac{3}{4}$$

N: $A = 0{,}10111$

Leida $\sqrt{A}$

$$\begin{array}{l} 00{,}10111 \\ \underline{11{,}\boxed{11}000} \\ 00{,}01111 \end{array} \qquad b_{-1} = 1$$

$$\begin{array}{l} 00{,}11110 \\ \underline{11{,}0\boxed{11}00} \\ 00{,}01010 \end{array} \qquad b_{-2} = 1$$

$$\begin{array}{l} 00{,}10100 \\ \underline{11{,}00\boxed{11}0} \\ 11{,}11010 \end{array} \qquad b_{-3} = 0$$

$$\begin{array}{l} 01{,}01000 \\ \underline{11{,}001\boxed{11}} \\ 00{,}01111 \end{array} \qquad b_{-4} = 1$$