3. $J(x) = \begin{pmatrix} 2x_1 - x_2 & 2x_2 - x_1 \\ 3x_1^2 & 3x_2^2 \end{pmatrix}$

$x^{(0)} = \left(-\frac{1}{2}, \frac{1}{2}\right)^t$

$\frac{1}{4}$

$F(x^{(0)}) = \begin{pmatrix} \frac{1}{4} + \frac{1}{4} + \frac{1}{4} - 1 \\ -\frac{1}{8} + \frac{1}{8} \end{pmatrix} = \begin{pmatrix} -\frac{1}{4} \\ 0 \end{pmatrix}$

$\| F(x^{(0)}) \| = \frac{1}{4} > 10^{-1} = \varepsilon_1$ $\frac{1}{4}$

continue

$J(x^{(0)}) = \begin{pmatrix} -\frac{3}{2} & \frac{3}{2} \\ \frac{3}{4} & \frac{3}{4} \end{pmatrix}$

Resolve $J(x^{(0)}) \cdot s^{(0)} = -F(x^{(0)})$

$\frac{1}{2}$

$\cancel{\frac{1}{4}} \begin{pmatrix} -6 & 6 \\ 3 & 3 \end{pmatrix} \cdot s^{(0)} = \cancel{\frac{1}{4}} \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$\left(\begin{array}{cc|c} -6 & 6 & 1 \\ 1 & 1 & 0 \end{array}\right) \rightsquigarrow \left(\begin{array}{cc|c} 0 & 12 & 1 \\ 1 & 1 & 0 \end{array}\right) \rightsquigarrow \left(\begin{array}{cc|c} 0 & 1 & \frac{1}{12} \\ 1 & 0 & -\frac{1}{12} \end{array}\right)$

$\frac{1}{4}$ $s^{(0)} = \begin{pmatrix} -\frac{1}{12} \\ \frac{1}{12} \end{pmatrix} \Rightarrow x^{(1)} = x^{(0)} + s^{(0)} = \frac{7}{12} \begin{pmatrix} -1 \\ 1 \end{pmatrix}$ $\frac{1}{2}$

$\| s^{(0)} \|_\infty = \frac{1}{12} < 10^{-1} = \varepsilon_2$ PARE! Resultado

$\frac{1}{4}$

$x^{(1)} = \frac{7}{12} \begin{pmatrix} -1 \\ 1 \end{pmatrix}$