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EX.2.3.5, Sauer3

Find the relative forward and backward errors and error magnification factor for the following approximate solutions of the system

$$\begin{cases} x_1 - 2 x_2 = 3 \\ 3 x_1 - 4 x_2 = 7 \end{cases}$$
(a) $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$ (b) $\begin{pmatrix} -2 \\ -3 \end{pmatrix}$ (c) $\begin{pmatrix} 0 \\ -2 \end{pmatrix}$ (d) $\begin{pmatrix} -1 \\ -1 \end{pmatrix}$

(e) What is the condition number of the coefficient matrix?