Question 1.[1] *(5 marks)* Consider the following Gauss-Jordan reduction:

$$\underbrace{\begin{bmatrix} -2 & 5 & 4 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}}_{A} \sim \underbrace{\begin{bmatrix} -2 & 5 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}}_{E_1 A} \sim \underbrace{\begin{bmatrix} 1 & 0 & 0 \\ -2 & 5 & 0 \\ 0 & 0 & 1 \end{bmatrix}}_{E_2 E_1 A} \sim \underbrace{\begin{bmatrix} 1 & 0 & 0 \\ 0 & 5 & 0 \\ 0 & 0 & 1 \end{bmatrix}}_{E_3 E_2 E_1 A} \sim \underbrace{\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}}_{E_4 E_3 E_2 E_1 A} = I$$

Find E_1, E_2, E_3, E_4 and express A as a product of elementary matrices.

Question 2. *(5 marks)* Find the inverse of A, if possible.

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 5 & 3 \\ 1 & 0 & 8 \end{bmatrix}$$

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[1] from WeBWorK