

$$\begin{bmatrix} 0 & +12 & +12 & 0 & 48 \\ 1 & 17 & 17 & 1 & 72 \\ 0 & -4 & 4 & 0 & 16 \\ 0 & 14 & 20 & 2 & 96 \end{bmatrix} \begin{array}{l} R1 \times -1 \\ R2 \times 3 \\ R3 \times 9 \\ R4 + 3 \times R2 \end{array}$$

$$\begin{bmatrix} 0 & 1 & 1 & 0 & 4 \\ 0 & 17 & 17 & 1 & 72 \\ 0 & 1 & -1 & 0 & -4 \\ 0 & 7 & 10 & 1 & 48 \end{bmatrix} \begin{array}{l} R1 \div 12 \\ R3 \div 4 \\ R4 \div 2 \end{array}$$

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 4 \\ 0 & 0 & -2 & 0 & -8 \\ 0 & 0 & 3 & 1 & 20 \end{bmatrix} \begin{array}{l} R1 + R3 \\ R2 - 17 \times R1 \\ R3 - R1 \\ R4 - 7 \times R1 \end{array}$$

$$\begin{bmatrix} 0 & 2 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 4 \\ 0 & 0 & 1 & 0 & 4 \\ 0 & 0 & 3 & 1 & 20 \end{bmatrix} R3 \div -2$$

$$\begin{bmatrix} 0 & 2 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 4 \\ 0 & 0 & 1 & 0 & 4 \\ 0 & 0 & 0 & 1 & 8 \end{bmatrix} R4 - 3R3$$

$$\begin{bmatrix} 0 & 2 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & -4 \\ 0 & 0 & 1 & 0 & 4 \\ 0 & 0 & 0 & 1 & 8 \end{bmatrix} R2 - R4$$

$$\lambda_3 = -4, \lambda_2 = 0, \lambda_1 = 4, \lambda_0 = 8.$$

It seems probable that the