

$$\left(\begin{array}{ccc|c} 2 & 3 & 4 & 7 \\ 1 & 7 & 5 & 6 \\ -4 & 1 & 5 & 5 \end{array} \right) \xrightarrow{\cdot (-\frac{1}{2})} \sim \left(\begin{array}{ccc|c} 2 & 3 & 4 & 7 \\ 0 & 5.5 & 3 & 6.5 \\ 4 & 1 & 5 & 5 \end{array} \right) \xrightarrow{\cdot 2}$$

$$\sim \left(\begin{array}{ccc|c} 2 & 3 & 4 & 7 \\ 0 & 5.5 & 3 & 6.5 \\ 0 & 7 & 13 & 13 \end{array} \right)$$

W

A B

$$A \begin{pmatrix} \bullet & \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & & & & & \\ & & & & & \end{pmatrix} \rightarrow \begin{pmatrix} \bullet & \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & & & & & \\ & & & & & \end{pmatrix}$$

$$M = \begin{pmatrix} 1 & & & & \\ & 1 & & & \\ & & -\frac{1}{2} & & \\ & & & 1 & \\ & & & & 1 \end{pmatrix} \leftarrow \text{elimination matrix}$$

$$M^{-1} = \begin{pmatrix} 1 & & & & \\ & 1 & & & \\ & \frac{1}{2} & & & \\ & & 1 & & \\ & & & 1 & \\ & & & & 1 \end{pmatrix}$$