

$$\begin{array}{c} \text{?} \\ \underbrace{\begin{bmatrix} 2a \end{bmatrix}}_A \underbrace{\begin{bmatrix} b/2 \end{bmatrix}}_B = \begin{bmatrix} a_1 \\ a_2 \\ a_3 \end{bmatrix} \underbrace{\begin{bmatrix} b_1 & b_2 & b_3 & b_4 \end{bmatrix}}_B \Rightarrow \begin{bmatrix} a_1 b_1 & a_1 b_2 & a_1 b_3 & a_1 b_4 \\ a_2 b_1 & a_2 b_2 & a_2 b_3 & a_2 b_4 \\ a_3 b_1 & a_3 b_2 & a_3 b_3 & a_3 b_4 \end{bmatrix} \end{array}$$

$$\text{rank}(A) = 1$$

3×4

A

$$A =$$

$$\alpha \begin{bmatrix} \cdot \\ \cdot \\ \cdot \end{bmatrix}$$

$$\bar{\alpha} \cdot \underline{b_2} \cdot \bar{b}$$

$$\begin{bmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

$$\beta \begin{bmatrix} \cdot \\ \cdot \\ \cdot \end{bmatrix}$$