

$$\begin{aligned}\det(\vec{u}; \vec{v}) &= \det \left( \begin{pmatrix} -1 \\ 3 \end{pmatrix}; \begin{pmatrix} 2 \\ -6 \end{pmatrix} \right) \\ &= -1 \times (-6) - 2 \times 3 \\ &= 0\end{aligned}$$