A Geometric Description of Span{u, v}

Take **u** and **v** in $\mathbb{R}^3$, with **v** not a multiple of **u**.

$$\begin{aligned}\text{Span}\{\mathbf{u}, \mathbf{v}\} &= \text{plane containing } \mathbf{u}, \mathbf{v}, \text{ and the origin } \mathbf{0}.\\ &= \text{the plane in } \mathbb{R}^3 \textbf{ spanned} \text{ by } \mathbf{u} \text{ and } \mathbf{v}.\end{aligned}$$

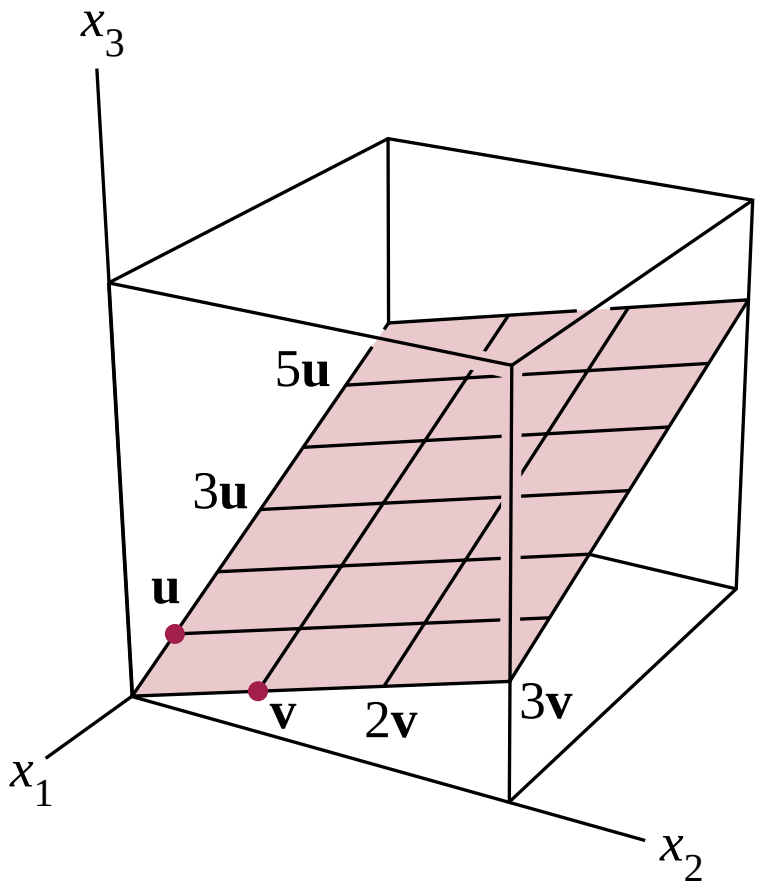

FIGURE 11 Span{**u**, **v**} as a plane through the origin.

Visualize Span{**u**, **v**} as a plane through the origin, whenever **u** and **v** are in $\mathbb{R}^n$ and **v** is not a multiple of **u**.