



**Definition**

The *span* of a set of vectors  $v_1, \dots, v_k \in \mathbf{R}^n$  is the set

$$\text{span}(\{v_1, \dots, v_k\}) = \{\alpha_1 v_1 + \dots + \alpha_k v_k \mid \alpha_i \in \mathbf{R}\},$$

the set of all linear combinations of the vectors  $v_1, \dots, v_k$ .



