$$\mathbb{R}^n \text{ vs. } P_n.$$

	$\mathbb{R}^n$	P_n
Vectors are of the form:	$\begin{bmatrix} a_1 \\ a_2 \\ \vdots \\ a_n \end{bmatrix}$ where each $a_i \in \mathbb{R}$	$b_0 + b_1 x + b_2 x^2 + \cdots + b_n x^n$ where each $b_i \in \mathbb{R}$
Example of a vector:	$\begin{bmatrix} 5 \\ 0 \\ \vdots \\ 0 \end{bmatrix}$	$1 + 2x + 3x^{n-1} + 7x^n$
Example of a basis:	$\{\mathbf{e}_1, \mathbf{e}_2, \ldots, \mathbf{e}_n\}$	$\{1, x, x^2, \ldots, x^n\}$
Example of an ordered basis:	$(\mathbf{e}_1, \mathbf{e}_2, \ldots, \mathbf{e}_n)$	$(1, x, x^2, \ldots, x^n)$
Dimension:	n	$n + 1$