- 1. Show that $V = \{(x, y, 0) | x, y \in \mathbb{R}\}$ form a vector space over the field \mathbb{R} .

- 2. Check whether it is vector space or not.

 $V = \{ax^2 + bx + c \mid a, b \in \mathbb{R} \text{ and } c = 1\}$