Exercises

E3.x.48 [057]Prerequisites:[02D],[053],[055].Difficulty:**.

Let V be a real vector space. Let A, B be two Hamel bases (see [02D]). Show that $|A| = |B|$. (This result is known as "*Dimension theorem*")

More in general, let $L, G \subseteq V$, if the vectors in L are linearly independent, and G generates V, show that $|L| \leq |G|$.

Solution 1. *[058]*