

## BOUNDED LINEAR TRANSFORMATIONS

## Why

Many things in real life are bounded and linear.<sup>1</sup> More importantly, a bounded linear function between two norm spaces is continuous. We will show this later.

## Definition

A bounded linear transformation between two norm spaces is a linear function which is bounded. As with linear transformations, we sometimes call bounded linear transformations bounded linear functions. Bounded linear functions are sometimes called bounded operators, since linear functions are sometimes called operators.

 $<sup>^1\</sup>mathrm{Future}$  editions will expand on this weak explanation.

