

# More vector math

Addition was really just the first step. There are many mathematical operations that are commonly used with vectors. Below is a comprehensive list of the operations available as functions in the `PVector` object from ProcessingJS. We'll go through a few of the key ones now. As our examples get more sophisticated in later sections, we'll continue to reveal the details of more functions.

- [`add\(\)`](#) — add vectors
- [`sub\(\)`](#) — subtract vectors
- [`mult\(\)`](#) — scale the vector with multiplication
- [`div\(\)`](#) — scale the vector with division
- [`mag\(\)`](#) — calculate the magnitude of a vector
- [`normalize\(\)`](#) — normalize the vector to a unit length of 1
- [`limit\(\)`](#) — limit the magnitude of a vector
- [`heading2D\(\)`](#) — the 2D heading of a vector expressed as an angle
- [`dist\(\)`](#) — the Euclidean distance between two vectors (considered as points)
- [`angleBetween\(\)`](#) — find the angle between two vectors
- [`dot\(\)`](#) — the dot product of two vectors
- [`cross\(\)`](#) — the cross product of two vectors (only relevant in three dimensions)

Having already covered addition, let's start with subtraction. This one's not so bad; just take the plus sign and replace it with a minus!