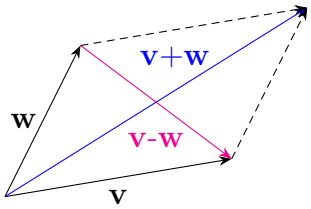
If we consider vectors $v, w \in \mathbb{R}^2$, we can visualize their addition and subtraction as such:



Geometrically, we see that $v + w$ and $v - w$ form the centre diagonals of a parallelogram where v and w are the side lengths. In context of the parallelogram law, we have that the square of the sum of the diagonal lengths of a parallelogram is equal to the square of its perimeter (sum of all side lengths).

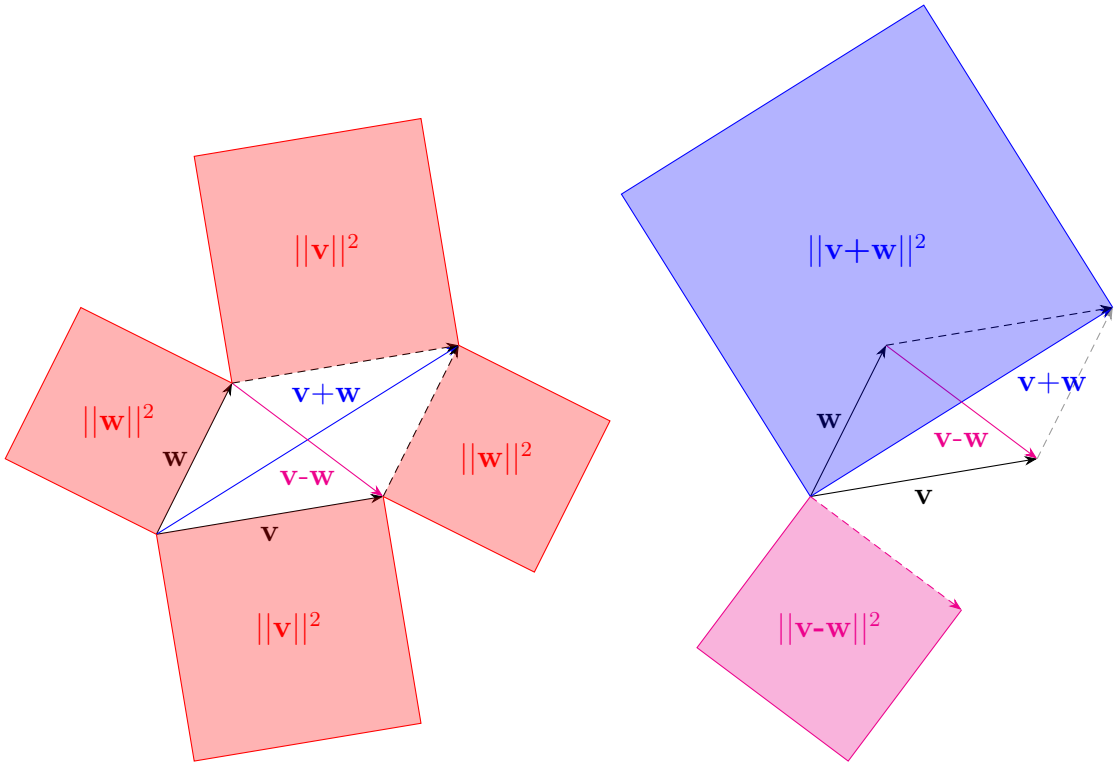


Figure 1: The total red area is equal to the blue and magenta areas combined.