Math 4317 (Prof. Swiech, S'18): HW #1

Peter Williams

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Section 8

D. If w_1 and w_2 are strictly positive, show that the definition, $(x_1, x_2) \cdot (y_1, y_2) = x_1 y_1 w_1 + x_2 y_2 w_2$, yields an inner product on $\mathbb{R}^2$, generalize this for $\mathbb{R}^p$.

E. $(x_1, x_2) \cdot (y_1, y_2) = x_1 y_1$ is not an inner product on $\mathbb{R}^2$. Why?

F. G. H. P. Q.

Section 9

Section 10

Section 11