Directions: Please answer in the space provided. No calculators. Please put all phones, etc., away.

1. Recall that $M_{2,2}$ is the set of all 2×2 matrices with entries from $\mathbb{R}$. Recall also that $M_{2,2}$ is a vector space whose addition (and scalar multiplication) is just the regular addition (and scalar multiplication) for matrices.

   Let W be the set of 2×2 matrices whose entries add up to 0. Show that W is a subspace of $M_{2,2}$.