ADDITIONAL PROBLEMS FOR HOMEWORK 2

Please do these additional problems on a separate sheet of paper.

(1) Suppose that $\vec{v}$,$\vec{w}$ and $\vec{u}$ are vectors in $\mathbb{R}^3$ prove that

$$\vec{u} \cdot (\vec{v} + \vec{w}) = \vec{u} \cdot \vec{v} + \vec{u} \cdot \vec{w}.$$

(2) Suppose that $\vec{v}, \vec{w} \in \mathbb{R}^3$, prove that

$$\vec{v} \cdot \vec{w} = \vec{w} \cdot \vec{v}.$$