first and and second principal components of $\vec{v_1}$ $\vec{v_1} = (3.38, 2.07)$

$$\vec{v_1} = (3.38, 2.07)$$
 $proj_2 \vec{v_1} = |\vec{v_1}|^2 = |proj_1 \vec{v_1}|^2 + |proj_2 \vec{v_1}|^2 = (-0.10, 0.18)$
 $3.47^2 + 1.89^2 + -0.10^2 + 0.18^2$