MATH 54 SUMMER 2017, QUIZ 4

Are the following vectors linearly dependent? If not, explain why not. If so, find a nontrivial linear combination of them that is equal to $\mathbf{0}$ (i.e. find real numbers a, b and c, not all zero, such that $a\mathbf{u} + b\mathbf{v} + c\mathbf{w} = \mathbf{0}$).

$$\mathbf{u} = \begin{bmatrix} 4 \\ 5 \\ -2 \end{bmatrix} \quad \mathbf{v} = \begin{bmatrix} -2 \\ 6 \\ 3 \end{bmatrix} \quad \mathbf{w} = \begin{bmatrix} 3 \\ 1 \\ -2 \end{bmatrix}$$