Exercise 1

Calculate the inverse of the following matrix:
$$\begin{pmatrix} 3 & 1 \\ 2 & 2 \end{pmatrix}$$
Write your solution here:

Exercise 2

Let $\vec{u} = (1,0,2)$, $\vec{v} = (5,3,4)$ and $\vec{w} = (1,1,0)$ be vectors in $\mathbb{R}^3$. Are they linearly independent?
   Write your solution here:

Exercise 3

State Cramer's Theorem.