Applied Math I - Quiz 1

Name:_____ Box #_____

1. $A = \begin{bmatrix} 1 & 5 \\ 4 & -1 \\ 2 & 1 \end{bmatrix}$; $B = \begin{bmatrix} 4 & 5 \\ 4 & 2 \\ -1 & 1 \end{bmatrix}$; $C = \begin{bmatrix} 4 & 1 \\ 4 & 2 \\ -1 & 2 \end{bmatrix}$:

Find $C^T(A + B)$:

2. Solve the following system of equations by elimination and then back substitution. Show all the steps.

$$x + 2y + 3z + w = 6$$
$$2x + 2y + 3z + 3w = -1$$
$$4x + 6y + 9z + w = 5$$

3. At what point if any does that solution pass through the (hyper)-plane $x = 5$: