

Write $\begin{bmatrix} 3 \\ 3 \\ 2 \end{bmatrix}$ as a linear combination of the vectors $\begin{bmatrix} 4 \\ -5 \\ 2 \end{bmatrix}$, $\begin{bmatrix} 3 \\ -1 \\ 1 \end{bmatrix}$, $\begin{bmatrix} -4 \\ 1 \\ -4 \end{bmatrix}$.

$$\begin{bmatrix} 3 \\ 3 \\ 2 \end{bmatrix} = \boxed{} \begin{bmatrix} 4 \\ -5 \\ 2 \end{bmatrix} + \boxed{} \begin{bmatrix} 3 \\ -1 \\ 1 \end{bmatrix} + \boxed{} \begin{bmatrix} -4 \\ 1 \\ -4 \end{bmatrix}.$$

Write $\begin{bmatrix} 3 \\ 3 \\ 2 \end{bmatrix}$ as a linear combination of the vectors $\begin{bmatrix} 4 \\ -5 \\ 2 \end{bmatrix}$, $\begin{bmatrix} 3 \\ -1 \\ 1 \end{bmatrix}$, $\begin{bmatrix} -4 \\ 1 \\ -4 \end{bmatrix}$.

$$\begin{bmatrix} 3 \\ 3 \\ 2 \end{bmatrix} = \boxed{-31/30} \begin{bmatrix} 4 \\ -5 \\ 2 \end{bmatrix} + \boxed{23/15} \begin{bmatrix} 3 \\ -1 \\ 1 \end{bmatrix} + \boxed{-19/30} \begin{bmatrix} -4 \\ 1 \\ -4 \end{bmatrix}.$$