① Set up the combination equations:

We seek scalars a_1, a_2, such that

$$a_1\begin{pmatrix}-2\\3\\1\end{pmatrix}+a_2\begin{pmatrix}0\\-1\\4\end{pmatrix}=\begin{pmatrix}-4\\2\\-8\end{pmatrix}$$

Equivalently, component-wise:

$$\begin{cases}-2a_1=-4\\3a_1-a_2=2\\a_1+4a_2=-8\end{cases}$$

② Solve the first two equations for a_1, a_2:

- From $-2a_1=-4$, we get

$$a_1=2$$

- Substitute into $3a_1-a_2=2$:

$$3\cdot 2-a_2=2\Longrightarrow 6-a_2=2\Longrightarrow a_2=4$$

③ Check consistency with third equation:

- Substitute $a_1=2$, $a_2=4$ into $a_1+4a_2=-8$

$$2+4\cdot 4=2+16=18$$

$$18\neq -8$$

This contradiction shows no values of (a_1, a_2) satisfy all 3 equations

Answer:

$a_1=$ none $\quad a_2=$ none