$$
\begin{aligned}
v_1 &= (-4,3,5,-3)\\
v_2 &= (-4,-1,8,-14)\\
v_3 &= (-1,1,1,0)\\
v_4 &= (-1,-3,2,\mu-8)\\
v &= (1,1,\lambda,1)
\end{aligned}
$$

$$
\begin{matrix}1\\1\end{matrix}\left(\begin{array}{cccc|c}-4&-4&-1&-1&1\\3&-1&1&-3&1\\5&8&1&2&\lambda\\-3&-14&0&\mu-8&1\end{array}\right)
$$

$$
\rightarrow\begin{matrix}-4\\\\1\\-3\end{matrix}\left(\begin{array}{cccc|c}-4&-4&-1&-1&1\\-1&-5&0&-4&2\\1&4&0&1&\lambda+1\\-3&-14&0&\mu-8&1\end{array}\right)
$$

$$
\rightarrow\begin{matrix}15\\-5\\\\1\end{matrix}\left(\begin{array}{cccc|c}0&15&-1&15&-7\\-1&-5&0&-4&2\\0&-1&0&-3&\lambda+3\\0&1&0&\mu+4&-5\end{array}\right)
$$

$$
\rightarrow\left(\begin{array}{cccc|c}0&0&-1&-30&15\lambda+38\\-1&0&0&11&-5\lambda-13\\0&-1&0&-3&\lambda+3\\0&0&0&\mu+1&\lambda-2\end{array}\right)
$$