3. Use Gaussian elimination on the system of equations below to give an expression for \( z \) in terms of \( \lambda \).

\[
\begin{align*}
\lambda + y + z &= 2 \\
4x + 3y - \lambda z &= 4 \\
5x + 6y + 8z &= 11
\end{align*}
\]

For what values of \( \lambda \) does this system have a solution?

Determine the solution to this system of equations when \( \lambda = 2 \).

Answers

\( \lambda \neq -1 \) \& \( z = 1, \quad y = -2, \quad x = 3 \)