(a) Solve using the method of elimination:

\[
\frac{2}{3} = Ax, \quad A = \begin{pmatrix} 1 & -1 \\ 3 & 2 & 1 \end{pmatrix}
\]

\[
x' = x - y \\
y' = x + 3y
\]

\[y = \frac{d}{3} \quad \text{then we can rewrite } x \text{ as:}
\]

\[
\begin{pmatrix} 1 & 1 & 0 \\ -1 & 2 & 3 & 0 \\ 0 & 0 & 0 \end{pmatrix}
\]

If we apply \(d = 1\) to the second row and add the two rows, we get:

\[
\begin{align*}
(1 - 1)(x - y) &= 0 \\
(0 - 0) &= 0
\end{align*}
\]

\[
\Rightarrow y = 0
\]

\[
\Rightarrow x - y = 0
\]

From the 2nd equation of \(x\), we get:

\[
x = y
\]

\[
(x = (8 - x) \Rightarrow x = 8)
\]

(after simplifying)