Homework 1

From the text
Section 3.4 2 a, c, f , 5
Section 1.2 1, 12, 18
Section 1.3 1, 8

1) For what values of \( c \) is the following system inconsistent?

\[ \begin{align*}
X_1 + cX_2 &= 0 \\
X_1 + 2X_2 - X_3 &= 0 \\
X_2 + X_3 &= 2
\end{align*} \]

2) Show that if matrices \( A \) and \( B \) have the same RREF, then \( A \) can be turned into \( B \) by a finite sequence of elementary row operations.

Hint: Show that any elementary row operation can be undone (inverted).