M341 (56140), Homework #4

Due: 11:00am, Thursday, Sep. 27

*Instructions: Questions are from the book "Elementary Linear Algebra, 4th ed." by Andrilli &
Hecker. Please show all your work, not only your final answer, to receive credit. Keep answers
organized in the same order the problems have been assigned.*

Linear systems and Gaussian elimination (2.1)

p. 96-98, #1(b,c,f), 2, 5, 10

Reduced row echelon form (2.2)

p. 107-110, #1, 4(a,b), 8, 11, 12

In addition:

A) Suppose $A = \begin{bmatrix} 1 & 2 & 2 & 2 \\ 2 & 4 & 6 & 8 \\ 3 & 6 & 8 & 10 \end{bmatrix}$ and $\boldsymbol{b} = \begin{bmatrix} 3 \\ -4 \\ c \end{bmatrix}$. For what values of $c \in \mathbb{R}$ does the system

$A\boldsymbol{x} = \boldsymbol{b}$ have solutions (that is, for what values of c is the system consistent)? Find the complete solution set in this case.