Exercise 1. Compute the following products $A\mathbf{x}$ using the (rows of A) $\cdot\, \mathbf{x}$ method.

a. $\begin{pmatrix} -4 & 2 \\ 1 & 6 \\ 0 & 1 \end{pmatrix} \begin{pmatrix} 3 \\ -2 \end{pmatrix}$

b. $\begin{pmatrix} 8 & 3 & -4 \\ -5 & 1 & 2 \end{pmatrix} \begin{pmatrix} -1 \\ 2 \\ 1 \end{pmatrix}$

c. $\begin{pmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 3 & 4 & 5 \end{pmatrix} \begin{pmatrix} 2 \\ 0 \\ -1 \end{pmatrix}$

Exercise 2. Solve the vector equation

$$\begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 4 & 2 & 4 \\ 3 & 6 & 1 & 4 \end{pmatrix} \mathbf{x} = \begin{pmatrix} 2 \\ 0 \\ -2. \end{pmatrix}$$

Be sure to express your answer in vector form.

Exercise 3. Textbook exercise 1.3.12