

---

MATH 22 SECTION 2 LECTURE 02 CLASSWORK

JUNE 24, 2017

---

- (1) Compute the reduced echelon form (written below) using the specific row operations given below (a) - (g).

$$\begin{bmatrix} 1 & 2 & 1 \\ 1 & 2 & 3 \\ 0 & -1 & 3 \end{bmatrix} \longrightarrow \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

(a)  $R_2 \leftarrow R_2 - R_1$

(b)  $R_3 \leftrightarrow R_2$

(c)  $R_2 \leftarrow -R_2$

(d)  $R_3 \leftarrow \frac{1}{2}R_3$

(e)  $R_2 \leftarrow R_2 + 3R_3$

(f)  $R_1 \leftarrow R_1 - R_3$

(g)  $R_1 \leftarrow R_1 - 2R_2$

(2) Compute the reduced echelon form (written below) using row operations.

$$\begin{bmatrix} 1 & 2 & 1 & 0 \\ 1 & 2 & 3 & -1 \\ 0 & -1 & 3 & -2 \end{bmatrix} \longrightarrow \begin{bmatrix} 1 & 0 & 0 & -1/2 \\ 0 & 1 & 0 & 1/2 \\ 0 & 0 & 1 & -1/2 \end{bmatrix}$$

(3) Compute the reduced echelon form (written below) using row operations.

$$\begin{bmatrix} 0 & 2 & -1 & 0 \\ -1 & 3 & 2 & -1 \\ 0 & -4 & 2 & 0 \end{bmatrix} \longrightarrow \begin{bmatrix} 1 & 0 & -7/2 & 1 \\ 0 & 1 & -1/2 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

- (4) Consider the linear system corresponding to the augmented matrix below. Write the solution set in parametric form.

$$\begin{bmatrix} 1 & 0 & -7/2 & 1 \\ 0 & 1 & -1/2 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$