

MA1004. Sede de Guanacaste. Grupos 001 y 002

Practica:

Calcular la matriz escalonada reducida R equivalente a la matriz A, en cada caso.

$$1) \quad A = \begin{pmatrix} 1 & 2 & 5 & -3 \\ 4 & 0 & 7 & 1 \\ -2 & -3 & 1 & 0 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & 0 & \frac{16}{15} \\ 0 & 1 & 0 & -\frac{13}{15} \\ 0 & 0 & 1 & -\frac{7}{15} \end{pmatrix}$$

$$2) \quad A = \begin{pmatrix} 4 & 5 & 7 \\ -1 & 0 & 3 \\ -2 & 0 & 9 \\ -4 & 1 & -2 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \\ 0 & 0 & 0 \end{pmatrix}$$

$$3) \quad A = \begin{pmatrix} 1 & 5 & 0 \\ 2 & -1 & -3 \\ -5 & 0 & 1 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$4) \quad A = \begin{pmatrix} 2 & 0 & -1 & 0 & 3 \\ 1 & -1 & -1 & 0 & -3 \\ -5 & 0 & 4 & -2 & 1 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & 0 & -\frac{2}{3} & \frac{13}{3} \\ 0 & 1 & 0 & \frac{2}{3} & \frac{5}{3} \\ 0 & 0 & 1 & -\frac{4}{3} & \frac{17}{3} \end{pmatrix}$$

$$5) \quad A = \begin{pmatrix} 1 & 2 \\ 3 & -2 \\ 4 & 7 \\ 10 & -1 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 \\ 0 & 1 \\ 0 & 0 \\ 0 & 0 \end{pmatrix}$$

$$6) \quad A = \begin{pmatrix} 3 & -1 & -4 & -9 \\ 1 & 5 & 4 & -2 \\ 9 & -3 & -12 & -27 \\ -6 & 2 & 8 & 18 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & -1 & -\frac{47}{16} \\ 0 & 1 & 1 & \frac{3}{16} \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix}$$

$$7) \quad A = \begin{pmatrix} 1 & 5 & -2 \\ 4 & 0 & 1 \\ -3 & -15 & 6 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & \frac{1}{4} \\ 0 & 1 & -\frac{9}{20} \\ 0 & 0 & 0 \end{pmatrix}$$

$$8) \quad A = \begin{pmatrix} 1 & 0 & 1 & 0 & 1 \\ 2 & 2 & -1 & 4 & 3 \\ 5 & -2 & -4 & 7 & 0 \\ 8 & 9 & -1 & -1 & -3 \end{pmatrix} \rightarrow R = \begin{pmatrix} 1 & 0 & 0 & 0 & -\frac{8}{21} \\ 0 & 1 & 0 & 0 & \frac{2}{7} \\ 0 & 0 & 1 & 0 & \frac{29}{21} \\ 0 & 0 & 0 & 1 & \frac{8}{7} \end{pmatrix}$$