

## Unit 3: Matrices

## Lesson 5: Inverse of Matrices (part 2)

EQ:

Part II: Finding  $A^{-1}$  Algebraically

Ex. 1 Given  $A = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$  find  $A^{-1}$

If \_\_\_\_\_, then  $\begin{bmatrix} \_ & \_ \\ \_ & \_ \end{bmatrix} \cdot \begin{bmatrix} \_ & \_ \\ \_ & \_ \end{bmatrix} = \begin{bmatrix} \_ & \_ \\ \_ & \_ \end{bmatrix}$

• Use matrix multiplication:  $\begin{bmatrix} \_ & \_ \\ \_ & \_ \end{bmatrix} = \begin{bmatrix} \_ & \_ \\ \_ & \_ \end{bmatrix}$

• Solve using a system of equations:

Ex. 2 Find  $R^{-1}$  algebraically given  $R = \begin{bmatrix} 2 & 4 \\ 3 & 5 \end{bmatrix}$ .