

Matrix Multiplication

$$\begin{bmatrix} -3 & 6 \\ 2 & -2 \end{bmatrix} \begin{bmatrix} 12 & 5 \\ 23 & 10 \end{bmatrix}$$

$$a_{1,1} = -3(12) + 6(23)$$

$$a_{1,2} = -3(5) + 6(10)$$

$$a_{2,1} = 2(12) + -2(23)$$

$$a_{2,2} = 2(5) + -2(10)$$

$$a_{1,1} = -36 + 138$$

$$a_{1,2} = -15 + 60$$

$$a_{2,1} = 24 - 46$$

$$a_{2,2} = 10 - 20$$

$$\begin{bmatrix} 102 & 45 \\ -22 & -10 \end{bmatrix}$$