

MATH 246 Groupwork 3.3**Name:** _____

1. Calculate the matrix product:

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$$

2. Find the inverse of the matrix:

$$A = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$$

3. Find the eigenvalues for the matrices:

(a) $A = \begin{bmatrix} 4 & 6 \\ -2 & -4 \end{bmatrix}$

(b) $A = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}$

(c) $A = \begin{bmatrix} 2 & -1 \\ 1 & 4 \end{bmatrix}$

(d) $A = \begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$