

3a

$$A = \begin{bmatrix} -1 & 2.5 \\ .5 & 1.5 \end{bmatrix}$$

$$B = \begin{bmatrix} 1 & -.5 \\ .5 & -2.5 \end{bmatrix}$$

$$|A| = -3/2 - 1/8$$

$$|B| = -1/4 + 1/4 = 0$$

$$= \frac{-24}{16} - \frac{-2}{16} = \frac{-11}{8} = -1.375$$

$$A = \begin{bmatrix} 1 & 2 \\ -1 & .5 \end{bmatrix}$$

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

$$AB = \begin{bmatrix} -8 & -2 \\ .5 & 4.5 \end{bmatrix}$$

$$|AB| = -36 + 1 = -35$$

$$BA = \begin{bmatrix} 1 & -6 \\ -4 & -5.5 \end{bmatrix}$$

$$\begin{matrix} A \\ \begin{bmatrix} 1 & 2 \\ -1 & .5 \end{bmatrix} \end{matrix}$$

$$|AB| = |BA|$$

$$\begin{matrix} B \\ \begin{bmatrix} -2 & -4 \\ -3 & 1 \end{bmatrix} \end{matrix} \begin{bmatrix} (-2+4) & (-4-2) \\ (-3-1) & (-6+5) \end{bmatrix}$$

$$= \begin{bmatrix} 2 & -6 \\ -4 & -5.5 \end{bmatrix} = -11 - 24 = -35$$