Name: **Tutorial day and time:**

Select one *completed* problem for feedback:

1. Compute the transpose, trace, and determinant of each of the matrices below:

$$A = \begin{bmatrix} 2 & -1 & 3 \\ 0 & 4 & -4 \\ 3 & 2 & -5 \end{bmatrix} \qquad B = \begin{bmatrix} -1 & -1 & 1 & 0 \\ 2 & 1 & 1 & 3 \\ 0 & 1 & 1 & 2 \\ 1 & 3 & -1 & 2 \end{bmatrix}$$

2. Let A be a 3×3 matrix such that $\det A = 4$. Compute the determinant of the following matrices:

   (a) $B = EA$, where E is the elementary matrix $E = \begin{bmatrix} 3 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

   (b) The matrix C obtained by switching rows 2 and 3 of A.

   (c) The matrix $2A$.

3. Let $A = \begin{bmatrix} 1 & 0 & -2 \\ 0 & 3 & 6 \\ -1 & 2 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 4 & -1 \\ 2 & 3 & 2 \\ 1 & 3 & -1 \end{bmatrix}$.
   Compute (use scrap paper for more space, or a computer, if needed):

   (a) $\det(A)$ and $\det(B)$.

   (b) The matrices AB and BA, and their determinants.

   (c) The inverse of A, and its determinant.