

Math 4133 - Linear Algebra
Quiz #5 - 2013.02.28
Solutions

1. Find a value of a in the following 2×2 matrix A so that A has no inverse.

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

We simply require the determinant to be zero, thus, $-3 - 2a = 0$, or $a = -\frac{3}{2}$.

2. Compute the transpose of the following matrix B :

$$B = \begin{bmatrix} 2 & -1 & 3 \\ 2 & 0 & 1 \\ -5 & 3 & -4 \end{bmatrix} \rightarrow B^T = \begin{bmatrix} 2 & 2 & -5 \\ -1 & 0 & 3 \\ 3 & 1 & -4 \end{bmatrix}$$