Math 227 Assignment 4 Supplement

Due Wednesday, February 20

1) (5 points) Let $e_1 = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$ and $e_2 = \begin{bmatrix} 0 \\ 1 \end{bmatrix}$. For all 2×2 matrices

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

with $ad - bc \neq 0$, the vectors Ae_1 and Ae_2 determine a parallelogram. Find the area of the parallelogram, with work to support your assertion.