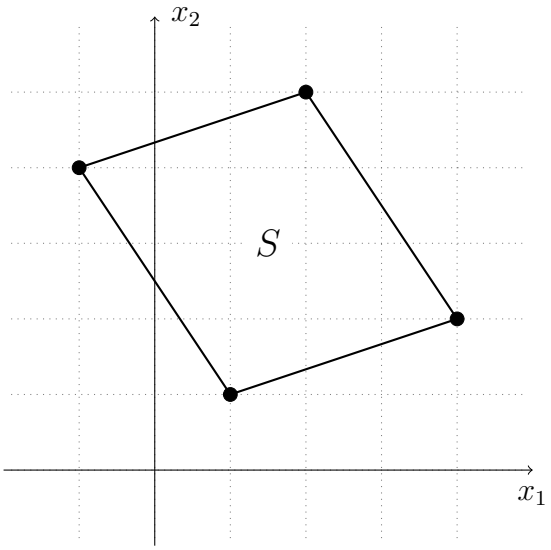
Math 2210-006/011 Quiz 7 **Name:** _____ **Due:** 10/28/19

This is a two-stage quiz. You will receive this back with each question graded pass/fail in our next class meeting. You have until the date specified above to submit corrections for partial credit.

1. (5 points) Consider the parallelogram S plotted below with vertices (1,1), (-1,4), (2,5), and (4,2).



(i) (3 points) Find the area of S.

(ii) (2 points) Define a linear transformation $T : \mathbb{R}^2 \to \mathbb{R}^2$ by $T(\underline{x}) = A\underline{x}$ where

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

Compute the area of the parallelogram $T(S)$, the image of S under T.

2. (5 points) Compute the determinant of

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