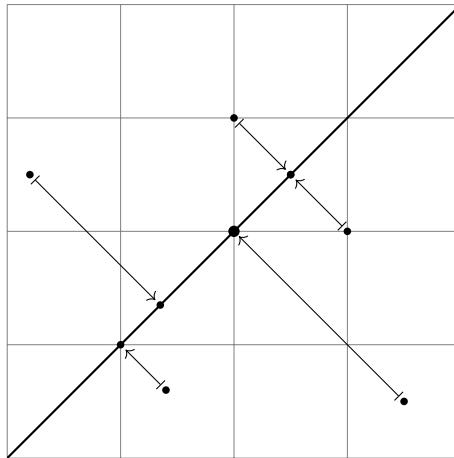


MATH 1553
QUIZ #5: §§4.2, 4.3

Name		Section	
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1. Let $T: \mathbf{R}^2 \rightarrow \mathbf{R}^2$ be the linear transformation that slides a point diagonally up or down at a 45° angle until it hits the line $y = x$, as in the following picture:



a) [4 points] Compute the standard matrix for T .

b) [3 points] Is T one-to-one? If so, explain why; if not, find two different vectors with the same image.

c) [3 points] Is T onto? If so, explain why; if not, find a vector not in the range.