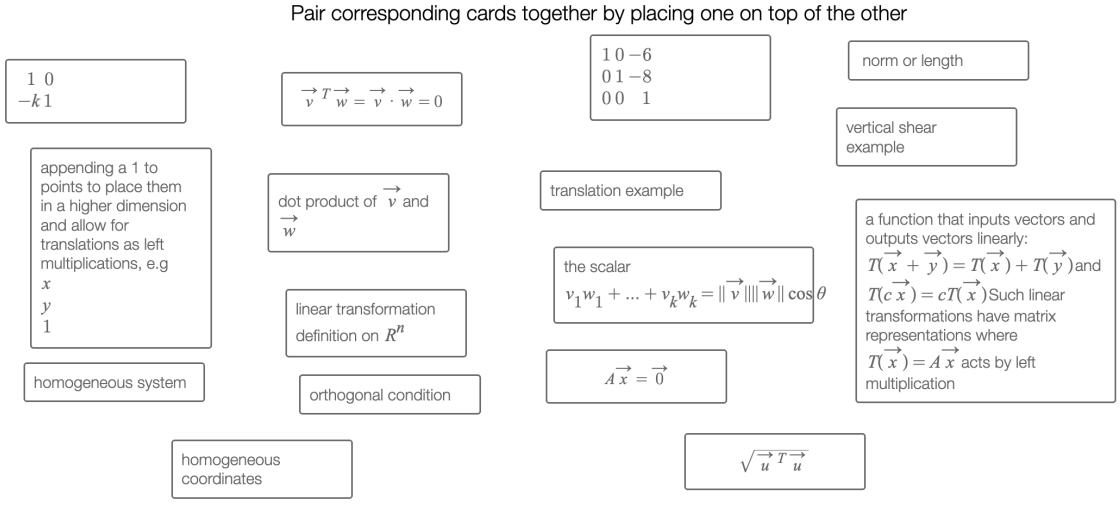
1.8, 1.9, 2.7 and 6.1 think-share-pair-compare

Part A: Post your responses in the think-share-pair-compare forum.

Part B: Respond separately to at least two of your classmates postings in a meaningful way that helps them understand. Try to select classmates who don't already have replies. Use their preferred name (like Dr. Sarah is mine), with something new that justifies your position on (at least) one of the questions. Don't just say, "Yeah, I agree." Instead, say, "Yes preferred name, but we also need to consider..." Or, "Preferred name, I had something different because..." You might pose questions, answer questions, extend ideas, or compare and contrast your responses and summarize what you chose and why.

1. List your preferred name.
2. Which linear transformations, if any, are not invertible—list any that are not invertible from among dilation, projection, reflection, rotation, shear, translation?
3. What do we need homogeneous coordinates for?
4. If two nonzero vectors in $\mathbb{R}^3$ are orthogonal, what can we say about their span (choose one)?
   a) the span is a line
   b) the span is a plane in $\mathbb{R}^2$
   c) the span is a plane in $\mathbb{R}^3$
   d) the span is $\mathbb{R}^3$
   e) none of the above
5. To help you solidify, pair corresponding cards together by placing one on top of the other at [link on ASULearn] (sign in to Desmos using your ASU Google account or similar). Next, use the feedback to keep sorting until you match them all correctly. Afterwards, select one or more pairings to describe and briefly report back in some way (for example, you could comment on what most interested you, surprised you, or what you had a question on).



6. These sections include the following learning outcomes. Reflect on one or more of these—personal connections, experiences and/or questions you have.
   i. investigate linear transformations of the plane and 3-space

ii. connect linear transformations to matrix-vector products and matrix multiplication
iii. compute norms and inner products
iv. investigate orthogonality
v. connect linear transformations, norms and orthogonality to computer graphics
vi. link algebra and geometry of the above, explore applications, and interpret statements