

Group \_\_\_\_\_ Scribe \_\_\_\_\_

Other group members \_\_\_\_\_

### Group Quiz for Section 5.2

The matrix  $\mathbf{A} = \frac{1}{\sqrt{2}} \begin{bmatrix} 2 & 1 \\ 2 & -1 \end{bmatrix}$  has singular value decomposition

$$\mathbf{A} = \begin{bmatrix} \frac{1}{\sqrt{2}} & -\frac{1}{\sqrt{2}} \\ \frac{1}{\sqrt{2}} & \frac{1}{\sqrt{2}} \end{bmatrix} \begin{bmatrix} 2 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}.$$

Draw a series of pictures as in the book to indicate what happens to the following figure when  $\mathbf{A}$  acts on  $\mathbb{R}^2$ .

