4.13A Matrices as Functions

AP Precalculus   Name: _____

CA #1

Directions: Given the linear transformation, find the associated matrix with that transformation.	
1) <x, y> to <3x - 2y, x + 4y>	2) <x, y> to <-2x, 2x - y>

Directions: Find the linear transformation given the associated matrix.	
3) $\begin{bmatrix} -1 & 4 \\ 0 & -1 \end{bmatrix}$	4) $\begin{bmatrix} 4 & -3 \\ -2 & 3 \end{bmatrix}$

Directions: Considering the given transformation, what is the image of the given vector under the transformation.	
4) $\vec{u} = \langle -6, -3 \rangle$ rotated π radians counterclockwise.	5) $\langle x, y \rangle$ to $\langle 2x + y, \ x - 2y \rangle$ and $\vec{v} = \langle 2, -3 \rangle$

ANSWERS

1) $\begin{bmatrix} 3 & -2 \\ 1 & 4 \end{bmatrix}$ 2) $\begin{bmatrix} -2 & 0 \\ 2 & -1 \end{bmatrix}$ 3) <x, y> to <-x + 4y, -y>. 4) <x, y> to <4x - 3y, -2x + 3y>. 5) <6, 3>. 6) <1, 8>

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