Worksheet
2/5/2020

Name: _____

Consider a linear map $f : M_{2\times 2}(\mathbb{R}) \to M_{2\times 2}(\mathbb{R})$ given by

$$f\left(\begin{bmatrix} a & b \\ c & d \end{bmatrix}\right) = \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}.$$

Determine the eigenvalues and the corresponding eigenspaces (by finding basis) of f.

See Lecture 13 and 14 for a coordinate-based method.

See Lecture 15 for a coordinate-free method.