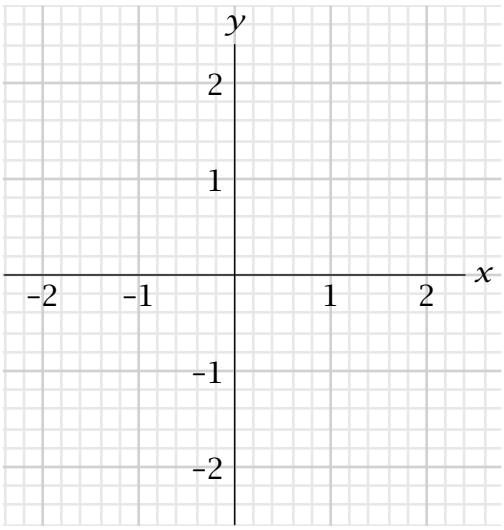
Physics 412—Operators, Eigenvectors, and Eigenvalues Winter 2020

An eigenvector of an operator is a vector whose direction is left unchanged by the operator (though its length may be changed).

(1) Working graphically, find the eigenvectors and eigenvalues of R_{30} and T_{45}, if they exist.

If you find eigenvectors, draw them in below and determine their corresponding eigenvalues. If you can't find any eigenvectors, explain why you think they don't exist.

Eigenvectors of R_{30}



Eigenvectors of T_{45}