The following problems are cooked up to be easy by-hand calculations. Treat them as such, showing the relevant steps in your solution.

Example 6.2.2, page 354, may be of help.

1. Let \( A = \begin{bmatrix} -5 & 14 \\ -4 & 10 \end{bmatrix} \). Find the eigenvalue(s) for \( A \). And then, for each eigenvalue, find the corresponding eigenvectors. Announce the eigenpairs you’ve found.

2. Repeat problem 1 for \( A = \begin{bmatrix} -14 & -48 \\ -48 & 14 \end{bmatrix} \).

3. Repeat problem 1 for \( A = \begin{bmatrix} 0 & 4 \\ -1 & 4 \end{bmatrix} \).