

# MATH 54 Homework 8

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Due Thursday, July 26.

- Hill 4.7: 27, 30, 40, 41, 42.
- Hill 5.1: 13, 15, 17, 19, 20, 27, 31, 32, 38.
- Hill 5.2: 3, 5, 7, 8, 9, 10, 11, 12, 29, 30, 31, 33.
- Hill 5.3: 21, 22, 23, 26, 32.
- Diagonalize the following matrices.

$$A = \begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$$

$$B = \begin{pmatrix} 39/2 & 1/2 & -18 \\ -5/2 & 5/2 & 2 \\ 20 & 0 & -18 \end{pmatrix}$$

For  $B$ , you can use a symbolic manipulator such as a TI-89 or Mathematica to compute and factor the characteristic polynomial.