

HW2

1. Let

$$A = \begin{pmatrix} 1 & i & 3 \\ -i & 0 & 1 \\ 1 & 0 & 2 \end{pmatrix}.$$

Find $I + A + 2A^2$ where I denotes the identity matrix.

2. Let

$$B = \begin{pmatrix} 0 & i \\ i & 0 \end{pmatrix}.$$

Find B^{25} . Justify your answer.

3. Let

$$A = \begin{pmatrix} 1 & 1 & 3 \\ -2 & 0 & 1 \end{pmatrix}$$

and

$$B = \begin{pmatrix} 1 & 1 & 0 \\ -2 & 0 & 2 \\ 1 & 4 & 1 \end{pmatrix}.$$

Find AB . Does BA make sense?

4. pp. 20-24 from the textbook. Problem 2(a).
5. pp. 13-16 from the textbook. Problems 1,11,14.

Remark. Each problem is worth 1 point, the problems with the star are worth 2 points.