Exam Rules:

Examination Book

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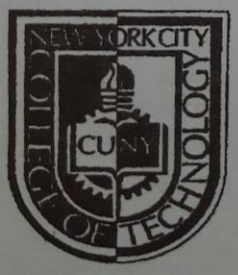
SUBJECT

INSTRUCTOR

EXAM SEAT NO. SECTION

DATE GRADE



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$$\begin{bmatrix} 3 & k \\ 1 & -3 \end{bmatrix} - \begin{bmatrix} \lambda & 0 \\ 0 & \lambda \end{bmatrix}$$

$$\begin{bmatrix} 3-\lambda & k \\ 1 & -3-\lambda \end{bmatrix}$$

$$(3-\lambda)(-3-\lambda) - k$$

$$-9 - 3\lambda + 3\lambda + \lambda^2 - k$$

$$\lambda = -k-9, \quad -k-9$$

$$\lambda^2 + (-9-k) = 0$$

square root?

q $\quad -6$

when is this < 1 in magnitude?

Don't forget, for problem 2, $k = 11$.