

NAME :

1. Consider the linear system  $Ax = b$ , with  $A = \begin{bmatrix} 3 & 4 \\ -1 & 0 \end{bmatrix}$  and  $b = \begin{bmatrix} 0 \\ 1 \end{bmatrix}$ .

Give all MATLAB commands to define and solve this linear system.

Also give the solution vector  $x$ .

2. Give all MATLAB commands you need to make the plot of the 10-th Chebyshev polynomial defined by  $y = \cos(10 \arccos(x))$ .

The inverse cosine in MATLAB is implemented by the function `acos`, and is of course only defined for  $x \in [-1, 1]$ . Since the polynomial is oscillating, make sure to take the sampling range for  $x$  fine enough.

**Alternative:** Bring to class on Monday the printout of the file created with diary to solve assignments 2,3 of MATLAB Lecture 1; and assignments 1,5,6 of MATLAB Lecture 2.