1. Do $x = -2:2$ and $y = [13 \ 6 \ 3 \ 4 \ 9]$. The numbers in $y$ are function values of a polynomial evaluated at the corresponding numbers in $x$. What is the degree of this polynomial?

Give the MATLAB commands used to obtain the degree and justify your answer. What are the coefficients of this polynomial?

2. Let $f$ be some well-defined function and consider $F(t) = \int_0^t f(x) \, dx$.

(a) Write a MATLAB function `area` which takes on input $f$ and $t$, and which returns in $y$ the value of $F(t)$. Use `quad` to compute the integral.

(b) Give the MATLAB command to use `area` to compute $F(1)$ for $f(x) = \cos(x)$.

**Alternative:** Bring to class on Monday the answers to assignments 1, 3, and 4 of the third lecture on MATLAB; and assignments 3 and 8 of MATLAB lecture 4.