EX.3.1.4, Sauer3

a. Find a polynomial $p(x)$ of degree 3 or less whose graph passes through the points $(0, 0)$, $(1, 1)$, $(2, 2)$, $(3, 7)$.

b. Find two other polynomials (of any degree) that pass through these four points.

c. Decide whether there exists a polynomial $p(x)$ of degree 3 or less whose graph passes through the points $(0, 0)$, $(1, 1)$, $(2, 2)$, $(3, 7)$, and $(4, 2)$.