SET 9

(1) Show that if a, b, and $c = a + b$ are positive integers such that $ac - b^2 = 1$, then a, b, and c are consecutive Fibonacci numbers.
(2) If $P(x)$ and $Q(x)$ are non-constant polynomials such that $P(P(x)) = Q(Q(x))$ (as polynomials) and $P(P(P(x))) = Q(Q(Q(x)))$, does it follow that $P(x) = Q(x)$?
(3) What is the largest possible number of acute angles in a polygon which is not self-intersecting (no two non-adjacent edges interesect)?