$G3 := [a + b + c, a \cdot b + b \cdot c + c \cdot a, a \cdot b \cdot c - 1];$

$$[a + b + c, a\,b + a\,c + b\,c, a\,b\,c - 1] \quad (1)$$

with(*Groebner*);

[*Basis*, *FGLM*, *HilbertDimension*, *HilbertPolynomial*, *HilbertSeries*, *Homogenize*, *InitialForm*, *InterReduce*, *IsBasis*, *IsProper*, *IsZeroDimensional*, *LeadingCoefficient*, *LeadingMonomial*, *LeadingTerm*, *MatrixOrder*, *MaximalIndependentSet*, *MonomialOrder*, *MultiplicationMatrix*, *MultivariateCyclicVector*, *NormalForm*, *NormalSet*, *RationalUnivariateRepresentation*, *Reduce*, *RememberBasis*, *SPolynomial*, *Solve*, *SuggestVariableOrder*, *Support*, *TestOrder*, *ToricIdealBasis*, *TrailingTerm*, *UnivariatePolynomial*, *Walk*, *WeightedDegree*] **(2)**

Basis(*G3*, *tdeg*(*a*, *b*, *c*));

$$[a + b + c, b^2 + b\,c + c^2, c^3 - 1] \quad (3)$$

Basis(*G3*, *plex*(*a*, *b*, *c*));

$$[c^3 - 1, b^2 + b\,c + c^2, a + b + c] \quad (4)$$

 # From which the solutions are obvious: c satsifies a cubic, b satsifies a quadratic (in c) and a is then determined