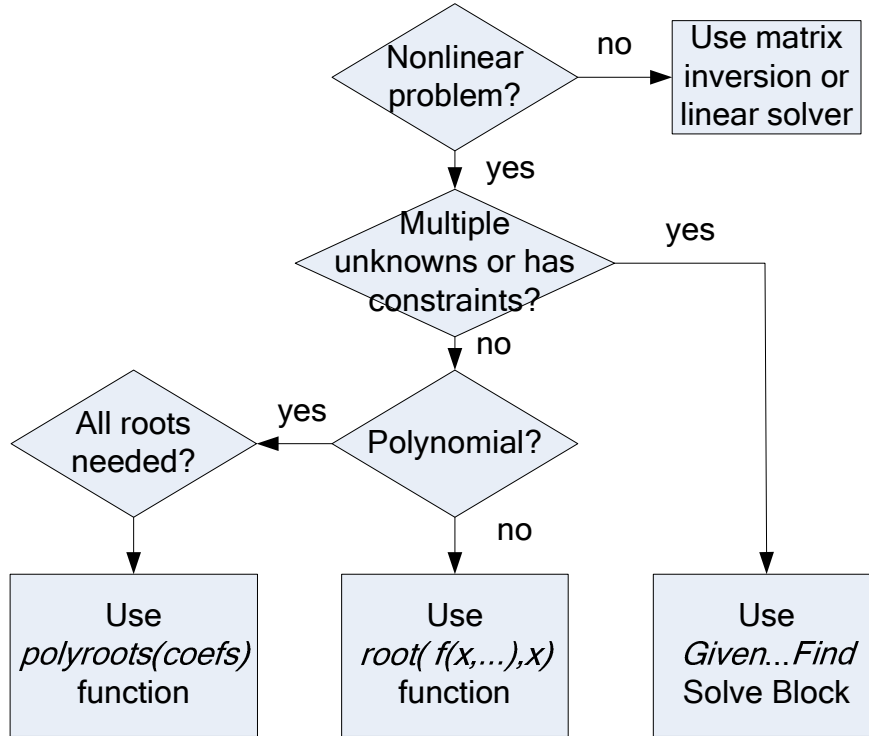# Comparison of Nonlinear Solvers in MathCad
(Dr. Tom Co, 10/8/08)

There are three approaches to solving nonlinear problems. I suggest the following decision tree:

Method	Advantage	Disadvantage
polyroots( )	1. Can obtain all roots 2. No need for initial guess 3. Can obtain non-real roots	1. Does not handle units 2. Need to extract coefficients 3. Does not handle multiple equations 4. Can only handle polynomial equations
Root( )	1. Can obtain roots of non-polynomial equations including non-real solutions 2. Can handle units	1. Solves only for one root 2. Need initial guess 3. Does not handle multiple equations
Given…Find( )	1. Can handle multiple equations 2. Can handle units 3. Can handle constraints	1. Need initial guesses for all unknowns 2. Can not yield non-real solutions