

Algebra 2 for the 21st Century Code Recursive Code Project Sample

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101 ▾ BreakingPoly1 = (OrigPoly, Z, FactoredPoly, k) ->
102     l = OrigPoly.length
103     last = OrigPoly[l-1]
104     first = OrigPoly[0]
105     P = []
106     Q = []
107     Z = []
108     Factors P, abs(last)
109     Factors Q, abs(first)
110     Zeros P, Q, Z
111     n = OrigPoly.length
112     m = Z.length
113     TempPoly = []
114     TempPoly[0]=OrigPoly[0]
115     ReducedPoly = []
116 ▾     for j in [0...m]
117 ▾         for i in [1...n]
118             TempPoly[i]=OrigPoly[i]+TempPoly[i-1]*Z[j]
119 ▾         if TempPoly[n-1] is 0
120             FactoredPoly[k] = Z[j]
121 ▾             for l in [0...(n-1)]
122                 ReducedPoly[l]=TempPoly[l]
123                 k+=1
124                 BreakingPoly1 ReducedPoly, Z, FactoredPoly, k
125                 break
126 ▾     if k is 0
127         write 'No rational root found'
128     return FactoredPoly
```

When you are working with code, large numbers are no longer intimidating!

The polynomial you entered was:

$$405x^7 - 80x^5 - 50625x^4 + 10000x^2$$

Your polynomial Factors to:

$$5x^2(9x - 4)(9x + 4)(x - 5)(x^2 + 5x + 25)$$