② $\mathcal{P}_{A_0}$ est-il un polynome du $2^{ème}$ degré factorisable suivant v=D0? 78

oui EQ pose $var_{A_2} = 1 = \left[\frac{(fact_1)(fact_2)}{fact(\mathcal{P}_{A_0})}\right]$ oui pose $var_{A_2} = fact_1 * fact_2$ EQ vrai ; conserve A0/~~D0~~ ⊗

non NE ; non ... ⊗ NE vrai ne pose rien $A6^S = A6^E$

```
XRQ2 : MOVEM.L   D0/A0/A6,-(SP)
       BSR    XDEG              D5= degré de v
       ASR    #1,D5
       BEQ    KG52
       BCC    KG54              ↓ non si D5=0 ou impair
       SUBQ   #8,SP
KG51 : ADDQ   #8,SP
KG52 : MOVEM.L  (SP)+,D0/A0/A6
       MOVEQ  #1,D1
       RTS
KG54 : MOVE   D5,D6             les seuls degrés sont-ils 0, D5 et D6 (=2D5)?
       ADD    D6,D6
       MOVE.L A0,A3             ici D2 tel que (A3,D2) pointe le degré est mis par XDEG
       MOVE   (A3)+,D4
       ADD    D4,D4
       ADD    D4,A3
       MOVE   (A3)+,D3
KG56 : MOVE   (A3,D2.W),D1
       BEQ    KG58
       CMP    D5,D1
       BEQ    KG58
       CMP    D6,D1
       BNE    KG52
KG58 : ADD    D4,A3
       BSR    SLNG31
       ADD    D1,A3
       DBRA   D3,KG56
       MOVE   D5,D1             <- MOVE D1,(SP)  ok
       BSR    XCOEFP
       ''
       ADD    D1,D1
       BSR    XCOEFP
       MOVE.L A2,-(SP)          a   <- CLR D1
       BSR    XCOEFP
       MOVE.L A2,-(SP)          c
       MOVE.L 16(SP),A0         b
       LEA    TCONST+11,A1      +1/2     } lea ,a1  1/2 ⊗
       BSR    XMULP                      } bsr xmcte
```

$\left(v + \frac{b' + \sqrt{\ }}{a}\right)\left(v + \frac{b' - \sqrt{\ }}{a}\right)$

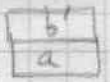
$\frac{-b' \pm \sqrt{b'^2 - ac}}{a}$

b	a	c	b'

c
a
k | v
P
b

(2)

```
MOVE.L  (SP)+, A0      c
MOVE.L  (SP), A1       a
MOVE.L  A2, -(SP)      +b'
BSR     XMULP          ac
MOVE.L  (SP), A0       +b'
MOVE.L  A2, -(SP)
MOVE.L  A0, A1
BSR     XMULPQ         b'^2
MOVE.L  A2, A0         b'^2
MOVE.L  (SP)+, A1      ac
BSR     XSUBP          b'^2 - ac
BSR     XCARQ          b'^2 - ac  est-il un carré ?
BNE     KGS1           → non
MOVE.L  (SP)+, A0      -b'
MOVE.L  A2, A1
BSR     XADDP          +b' + √(b'^2 - ac)
MOVE.L  A2, -(SP)
BSR     XSUBP          b' - √δ
MOVE.L  A2, A0
LEA     4(SP), A1      pointe a
BSR     XRQ1           A2 = [v^k - x1]^fact
MOVE.L  (SP)+, A0
MOVE.L  SP, A1         pointe a
MOVE.L  A2, -(SP)
BSR     XRQ1           A2 = [v^k - x2]^fact
MOVE.L  A2, A1
MOVE.L  (SP)+, A0
BSR     XCONCP XMULFA  (v^k - x1)(v^k - x2)
MOVE.L  (SP)+, A0      a
MOVE.L  A2, -(SP)
BSR     XPSAF1         a^t
MOVE.L  (SP)+, A0      (v^k - x1)(v^k - x2)
MOVE.L  A2, A1         a
BSR     XCONCP         a(v - x1)(v - x2)
        XMULFA
```



MOVE.L A2,A0 √δ F
BSR XFDEV √δ div
MOVE.L A0,A1
LEA 2(A0),A1

MOVE.L A2,-(SP) √δ
BSR XPSAF b'F
MOVE.L A2,A0
MOVE (SP)+, A1 √δ

②

[b] [a] … $\underbrace{b' + \sqrt{b'^2 - ac}}_{-ax_0}$ (A2 … A6)

a
k | v
P
b

```
MOVE.L   (SP),A0        a
MOVE.L   A2,-(SP)       -ax0
MOVEM.L  8(SP),D0/D2
EXG      D0,D2          v k
BSR      XPSMON         P_A1 = v^k
BSR      XMULP          av^k
MOVE.L   A2,A0          av^k
MOVE.L   (SP)+,A1       -ax0
BSR      XADDP          av^k - ax0

MOVE.L   (SP)+,A0       a
ADDQ     #4,SP
MOVE.L   A2,-(SP)
BSR      XPSAF1         a^F
```

a^F
$av^k - ax_0$
P
b

~~MOVE.L A6,A5~~
~~MOVE.L A2,A6~~ } ~~$av^k - ax_0$~~
~~MOVE.L (SP)+,A2~~
~~MOVE.L 4(SP),A0~~ ~~b~~
~~BSR XLB76~~ ~~copie $av^k - ax_0$~~
~~MOVE.L A6,-(SP)~~
~~MOVE.L A5,A6~~
~~BSR XLB76~~ ~~copie a^F~~

~~a^F~~
~~P~~
~~$av^k - ax_0$~~

```
MOVE.L   A2,-(SP)
MOVE.L   A2,A0
BSR      XREDQQ         a complètement factorisé
```

boucle sur les facteurs de a

répète KG44

```
ML54: MOVE.L  (SP),A0          a^F
      MOVE    (A0)+,D1         nb de facteurs
      BSR     SLNG0
      ADD     D0,A0
ML56: SUBQ    #1,D1
x     BEQ     ML58             → fin
      MOVE.L  (A0)+,D0
      MOVE.L  A0,A1
      ADD.L   D0,A0
      MOVEM.L D0/A0,-(SP)
      MOVE.L  12(SP),A0        a(v^k - x0)
      BSR     XCTDIV2          divisible ?
x     BEQ     ML60             → oui
      MOVEM.L (SP)+,D1/A0
      BRA     ML56
ML58: ADDQ    #4,SP
      MOVE.L  (SP),A1          α(v^k - x0)
      MOVE.L  4(SP),A0         P
      BSR     XCTDIV2
      BMI     KG52             → échec
      MOVE.L  A2,A0
      BSR     XPSAF1           (facteur 2)^F
      MOVE.L  (SP)+,A0         facteur 1
      MOVE.L  A2,-(SP)
      BSR     XPSAF1           (facteur 1)^F
      MOVE.L  (SP)+,A0         (facteur 2)^F
      MOVE.L  A2,A1
      BSR     XCONCP
      MOVE.L  4(SP),A0
      BSR     XLB76
      MOVEM.L (SP)+,A0/A2
      CLR     D0
      RTS
```

```
ML60: ADDQ  #8,SP
      MOVE.L  A2,-(SP)      α(v^k - x_0)
      MOVE.L  A1,A0
      BSR     XPSAF         φ^F ⊗

      MOVE.L  A2,A1
      MOVE.L  4(SP),A0      a^F

      BSR     XCONCI        a^F / φ^F

      MOVE.L  A6,A5
      MOVE.L  A2,A4
      MOVE.L  A1,A6         ] α(v^k - x_0)
      MOVE.L  (SP)+,A2
      ADDQ  #8,SP
      MOVE.L  4(SP),A0      b
      MOVE.L  A0,-(SP)
      BSR     XLB76
      MOVE.L  A6,-(SP)
      MOVE.L  A5,A6
      MOVE.L  A4,A2
      BSR     XLB76
      BRA     ML54
```