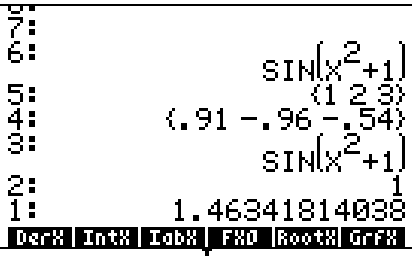
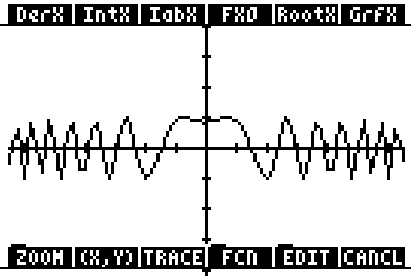
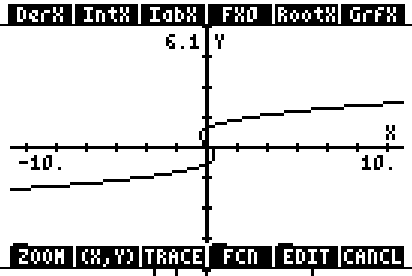
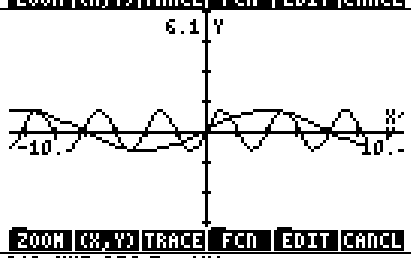
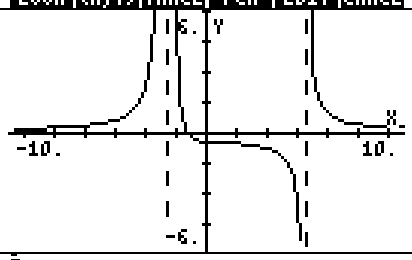
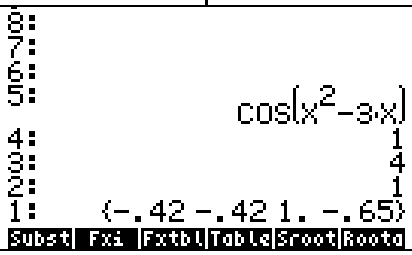
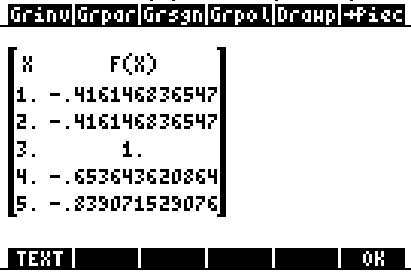
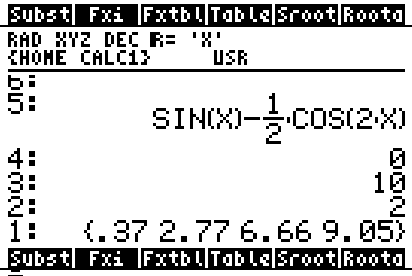
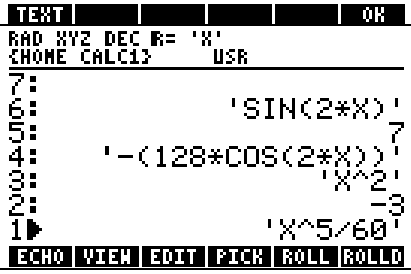
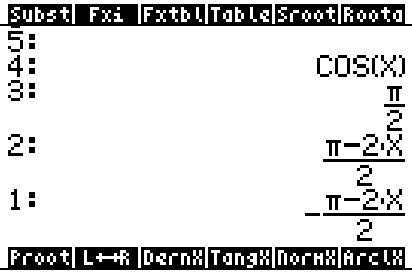
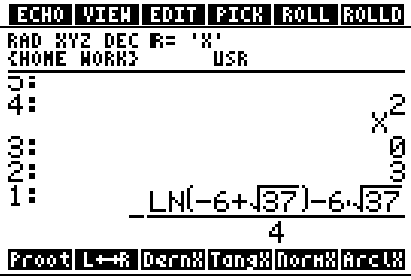
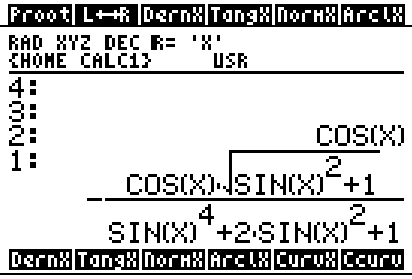
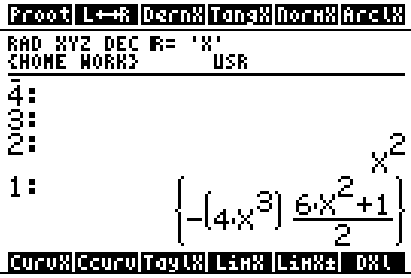
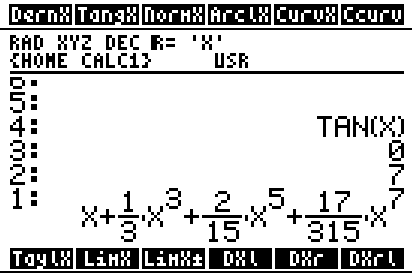
CALC1

DerX: derivative (0.3s) IntX: integral (0.9s) IabX: integral from a to b (4s) FX0: function values (1s) RootX: zeros near x0 (1s)		
GrfX: graph of SIN(X^2+1) (1s) Grinv: plot inverse of function 'X^3-X' (3s)		
Grpar: simultaneous plot of SIN(a*X) a: {1/2 2} (5s) Grpoles: graph of rational function with poles (15s) Drawpole: (1s)		
->Piece: generates piecewise function (0.1s) Fxi: values from a to b step s (1.4s)		
Fxtbl: table same example as in Fxi (3s) Rootab: roots from a to b step s (10s)		
DernX: n. (anti) derivative (1.7s) TangX, NormX: tangent, normal line (1s)		
ArclX: arclength of f(x) (4.5s) CurvX: curvature of f(x) (1s)		
CcurvX: centre of curvature (0.6s) TaylX: Taylor series around X0 up to n (5s)		

LimX: limit (0.3s) LimX±: both sided limit (5s)	RAD XYZ DEC ℝ= 'X' {HOME CALC1} USR 6: 5: 4: 3: SIN(X)/X 2: 0 1: 1 CurvX Ccurv TaylX LimX LimX± DXl	RAD XYZ DEC ℝ= 'X' {HOME CALC1} USR 6: 5: 4: 3: |X|/X 2: 0 1: {-1 1} TaylX LimX LimX± DXl DXr DXrl
Dxr,l: right, left side Dxrl: both side numeric derivative (0.4s) Ixl,rrect: left, right sum of rectangles (6s)	RAD XYZ DEC ℝ= 'X' {HOME CALC1} USR 7: 6: COS(X) 5: 1. 4: .001 3: -.841740996 2: -.841200694 1: -.84147095 DXr DXrl IXlre IXrre IXtra IXsim	RAD XYZ DEC ℝ= 'X' {HOME CALC1} USR 7: 6: COS(X) 5: 0. 4: 1. 3: 100. 2: .84376246101 1: .839165484068 DXr DXrl IXlre IXrre IXtra IXsim
Ixtrapez: sum of trapezoids IXsimpson: Simpson integration (6s) IabX: precise value	RAD XYZ DEC ℝ= 'X' {HOME CALC1} USR 7: 6: COS(X) 5: 0. 4: 1. 3: 100. 2: .841463972539 1: .841470984842 DXr DXrl IXlre IXrre IXtra IXsim	RAD XYZ DEC ℝ= 'X' {HOME CALC1} USR 7: 6: 5: 4: COS(X) 3: 0. 2: 1. 1: .841470984808 DerX IntX IabX FXO RootX GrFX
HelpCALC1	CALC1: CALCULUS FOR FUNCTIONS OF ONE VARIABLE X DerX F(X) → ∂X(F) DERIVATIVE IntX F(X) → ∫FdX INTEGRAL IabX F(X) a b → ∫(a,b,F(X),X) FXO F(X) X0 → F F(X0) {F1(X)..} X0 → {F1(X0)..} F(X) {X1..} → F {F(X1)..} RootX F(X) A → F X1, ROOT AT A GrFX F(X) → F GRAPH GrinvFX 'F(X)' → F GRAPH GRAPH OK	OF THE INVERSE OF F Grpar F(X,a) {a1..an} → F {} GRAPH, a=PARAMETER Grsgn F(X) → F(X) GRAPH OF SIGN(F) FOR MONOTONY, CURVATURE Grpoles F(X) {{p1..}} → F(X) {} GRAPH OF FCT WITH POLES AT {p1..}. FOR RATIONAL FCTS POLES ARE DETERMINED FOR NONRATIONAL YOU MUST KEY IN THE POLES GRAPH OK
HelpCALC1	Drawpole {p1..} → {} DRAW POLES →PieceX {F1(X) 'X<X1'..} → 'IFTE(..)' PIECEWISE FCT Fxi F(X) a b s → F(X) {..} FCT-VALUES IN a-b STEP s Fxtbl F(X) {X1..XN},a b s → {} TABLE OF FCT-VALUES OF {X1..}, a TO b STEP s Table F(X) → TABLE WITH ACTUAL TPARS SrootX F → F {'X=X1'..} SYMBOLIC ROOTS OF F GRAPH OK	Rootab F a b s → F {X1..Xn} ROOTS IN a-b STEP s Proot {an..a0}→{r1..rn-1} ROOTS OF POLYNOMIAL anx^n+..+a1x+a0 L↔R {an..a0},{{an..}{bm..}}↔ 'anx^n+..a0' '(anx^n+..)/(bmx^m+..)' DernX F(X) n>0 → ∂nX(F) n<0 n. antiderivative TangX0 F X0 → F aX+b TANG.LINE NormX0 F X0 → F aX+b NORM.LINE GRAPH OK
HelpCALC1	ArcLX F X1 X2 → F s ARCLENGTH CurvX F → F c CURVATURE CcurvX F → {XC YC} CENTER OF CURVATURE TaylX F(X) X0 n → TAYLORSERIES Σ(k=0,n,Fk(X0)/k!×(X-X0)^k LimX F(X) X0 → F(X) F(X0) LIMIT LimX± F(X) X0 → {FL FR} LEFT, RIGHT LIMIT X→X0±0 DXl,r F(X) X0 ±X0 → F'(X0) LEFT,RIGHT NUM. DERIVATIVE IXl,rrect F(X) A B n → ∫ GRAPH OK	LEFT,RIGHT NUM. DERIVATIVE IXl,rrect F(X) A B n → ∫ LEFT,RIGHT SUM OF n RECT. IXtrapez F(X) A B n → ∫ SUM OF n TRAPEZOIDS IXsimpson F(X) A B n → ∫ SIMPSON INTEGRATION T→IV T → T {V1..VN} TERM → INDEP VARS Fctreset _ → _ RESETS PLOTPAR. TO: X {-10,10} Y {-5,5} CST {Help Fctreset} GRAPH OK