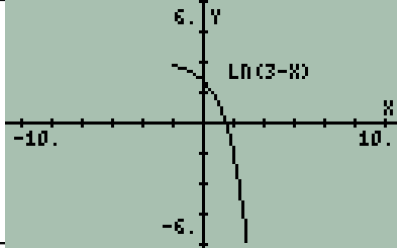
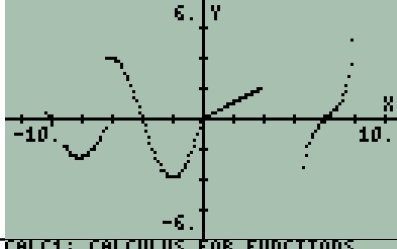


CALC1

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)	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: SIN(X) X 2: 0 1: 1 Dxrl LmX LmXa DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: X X 2: 0 1: (-1 1) DmL DmL DmL DmL DmL DmL DmL
LimX±: both sided limit (5s)	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 1. 2: .001 1: -.841740996 -.841200694 -.84147095 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .84376246101 .839165484068 DmL DmL DmL DmL DmL DmL DmL
Dxr,l: right, left side Dxrl: both side numeric derivative (0.4s)	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL
Ixl,rect: left, right sum of rectangles (6s)	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL
Ixtrapez: sum of trapezoids IXsimpson: Simpson integration (6s)	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL
IabX: precise value	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL
Ixtrapez: sum of trapezoids IXsimpson: Simpson integration (6s)	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL
IabX: precise value	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL	RAD XYZ DEC R= 'X' CHOME CALC13 USR 7: 6: 5: 4: 3: COS(X) 0. 2: 1. 1: 100. .841463972539 .841470984842 DmL DmL DmL DmL DmL DmL DmL
Griab: inverse function of Ln(3-X) in {-10 3}		RAD XYZ DEC C= 'X' CHOME MORR3 USR 7: 6: 5: 4: 3: (0 X<-2 -2-COS(X) X4-5 3-SIN(X)) 'FPiece' 1: FPiece(X) Grpar Draup Grasn GrFpN Expie +Piec
Piecewise function example		
Piecewise function picture		
HelpCALC1	CALC1: CALCULUS FOR FUNCTIONS OF ONE VARIABLE X DerX F(X) + 3X(F) DERIVATIVE IntX F(X) + fF(X) INTEGRAL IabX F(X) a b + f(a,b,F(X),X) Fm F(X) X0 + F F(X0) CF1(X) X0 + CF1(X0) X1 F(X) X1 X2 + F CF(X1) X2 RootX F(X) A + F X1, ROOT AT A GrFX F(X) + F GRAPH Fino F(X) + F(X) (ERROR) +SHIP SHIP+ +DEL DEL+ DEL L INS =	CALCULATE INVERSE FCT DinoX F(X) X0 + F(X) X0 DinoY F(X) Y0 + F(X) X0 F(X) Y0 ON F(X) GrinoX F(X) + F GRAPH OF THE INVERSE OF F GriabX F(X) (a b) + F GRAPH OF THE INVERSE OF F. IF F(X) CONTAINS LD, YOU MUST SPECIFY THE VALID X-RANGE. EX: LD(X) (0 10) +SHIP SHIP+ +DEL DEL+ DEL L INS =
HelpCALC1	X-RANGE. EX: LD(X) (0 10) Ln(2-X) (-10 2) Grpar F(X) (0 10) + F (3) GRAPH, a=PARAMETER Draupole (0 10) + (3) DRAW POLES Grasn F(X) + F(X) GRAPH OF SIGN(F) FOR MONOTONY, CURVATURE GrFpN F(X) + F(X) GRAPH WITHOUT CONNECTED POINTS RESOLUTION = 4X/500 Expiece + + F(X) 'X'X1' +SHIP SHIP+ +DEL DEL+ DEL L INS =	EXPiece + + F(X) 'X'X1' 'FPiece' 'X'X1' 'FPiece' EXAMPLE FOR +Piec 'FPiece' 'X'X1'... 'FPiece' + 'FPiece(X)' PIECEWISE FCT STORED IN VARIABLE 'FPiece'. PLOT: GrFpN, GrFX VALUES: Fm, Fxi, Fxtbl. OTHER PROGS RUN NOT WITH 'FPiece(X)'. REPLACES IFTE, WHICH +SHIP SHIP+ +DEL DEL+ DEL L INS =

HelpCALC1	HORRS NOT IN EMULATOR SubsX $F(X) \cdot X0 + F(X) \cdot \ln(F(X0))$ SoluX $F(X) + F(X) \cdot \ln(1..3)$ Fxi SYMBOLIC ZEROS $F(X) \cdot a \cdot b \cdot s + F(X) \cdot \{..3$ Fxtbl FCT-VALUES IN a-b STEP s $F(X) \cdot \ln(1..X0), a \cdot b \cdot s + \{3$ TABLE OF FCT-VALUES OF $\ln(1..3)$, a TO b STEP s Table $F(X) + \text{TABLE WITH}$ 4 ACTUAL TRAPS SrootX $F + F \cdot \{X=X1'..3$ +SKIP SKIP+ +DEL DEL+ DEL L INS =	SrootX $F + F \cdot \{X=X1'..3$ SYMBOLIC ROOTS OF F Rootab $F \cdot a \cdot b \cdot s + F \cdot \ln(1..Xn)$ ROOTS IN a-b STEP s Proot $\{an..a0\} + \{r1..rn-1\}$ ROOTS OF POLYNOMIAL $an \cdot X^n + .. + a1 \cdot X + a0$ $\{an..a0\}, \{can..3\} \{bm..3\} \leftrightarrow$ $\{an \cdot X^n + .. + a0\}$ $\{can \cdot X^n + ..\} / \{bm \cdot X^n + ..\}$ DernX $F(X) \cdot n > 0 + 3n \cdot F$ 4 $n < 0$ n. antiderivative +SKIP SKIP+ +DEL DEL+ DEL L INS =
HelpCALC1	TangX $F \cdot X0 + F \cdot aX+b$ TANG.LINE NormX $F \cdot X0 + F \cdot aX+b$ NORM.LINE ArcLX $F \cdot X1 \cdot X2 + F \cdot s$ ARCLNGTH CurvX $F + F \cdot c$ CURVATURE CcurvX $F + \{XC \cdot YC\}$ CENTER OF CURVATURE TaylX $F(X) \cdot X0 \cdot n + \text{TAYLOR SERIES}$ $\{X(0,n), F(X0)/n! \cdot (X-X0)^n$ LimX $F(X) \cdot X0 + F(X) \cdot F(X0)$ LIMIT LimXs $F(X) \cdot X0 + \{FL \cdot FR\}$ LEFT, RIGHT LIMIT $X=X0 \pm 0$ DNL,r $F(X) \cdot X0 \cdot aX0 + F'(X0)$ +SKIP SKIP+ +DEL DEL+ DEL L INS =	DNL,r $F(X) \cdot X0 \cdot aX0 + F'(X0)$ LEFT,RIGHT NUM. DERIVATIVE INL,rect $F(X) \cdot A \cdot B \cdot n + /$ LEFT,RIGHT SUM OF n RECT. INtrapez $F(X) \cdot A \cdot B \cdot n + /$ SUM OF n TRAPEZOIDS INSimpson $F(X) \cdot A \cdot B \cdot n + /$ SIMPSON INTEGRATION T+IV $T + T \cdot \{V1..Vn\}$ TERM + INDEP VARS Fctrreset - + - RESETS PLOTPAR. To: X (-10,10) Y (-5,5) +SKIP SKIP+ +DEL DEL+ DEL L INS =