

Sharp EL-9200C Sharp EL-9300C

Simple Interest Program

This program can be used to find the amount of simple interest earned on a given principal at a given annual interest rate for a certain amount of time.

```
simpint
-----REAL
Input principal
Print "Interest rate
Print "in decimal form
Input rate
Print "Number of years
Input time
interest=principal*rate*time
Print interest
```

Quadratic Formula Program

This program will display the solutions to quadratic equations or the words "No Real Solution." To use the program, write the quadratic equation in standard form and enter the values of a , b , and c . This program gives both real and complex answers.

```
quadratic
-----COMPLEX
Print "ax^2+bx+c=0"
Input a
Input b
Input c
d=b^2-4a*c
x1=(-b+√ d)/(2a)
x2=(-b-√ d)/(2a)
Print x1
Print x2
End
```

Two-Point Form of a Line

This program will display the slope and y-intercept of the line that passes through two points, (x_1, y_1) and (x_2, y_2) , entered by the user.

```
twoptform
Print "enter x1, y1
Input x
c=x
Input y
d=y
Print "enter x2, y2
Input x
Input y
m=(d-y)/(c-x)
b=m*(-x)+y
Print "slope
Print m
Print "y-int
Print b
```

Reflections and Shifts Program

This program will sketch a graph of the function $y = R(x + H)^2 + V$, where $R = \pm 1$, H is an integer between -6 and 6 , and V is an integer between -3 and 3 . This program gives you practice working with reflections, horizontal shifts, and vertical shifts. Press after viewing the graph to display the values of the integers.

```
parabola
-----REAL
h=int (random*12) -6
v=int (random*6) -3
s=(random*2) -1
r=s/abs s
Range -9,9,1,-6,6,1
Graph r(X+h)^2+v
Wait
Print "y=r(X+h)^2+v
Print r
Print h
Print v
End
```

Graph Reflection Program

This program will graph a function f and its reflection in the line $y = x$. To use this program, replace $f(X)$ with your expression in X .

```

reflection
-----REAL
Goto top
Label equation
Y=f(X)
Return
Label rng
xmin=-10
xmax=10
xstp=(xmax-xmin)/10
ymin=2*xmin/3
ymax=2*xmax/3
ystp=xstp
Range xmin,xmax,xstp,ymin,
    ymax,ystp
Return
Label top
Gosub rng
Graph X
step=(xmax-xmin)/(94*2)
X=xmin
Label 1
Gosub equation
Plot X,Y
Plot Y, X
X=X+step
If X<=xmax Goto 1
End

```

Systems of Linear Equations Program

This program will display the solution of a system of two linear equations in two variables of the form

$$ax + by = c$$

$$dx + ey = f$$

if a unique solution exists. Equations must be entered in the form: $AX + BY = C$; $DX + EY = F$. Uppercase letters are used so that the values can be accessed in the calculation mode of the calculator.

```

solve
-----REAL
Print "AX+BY=C"
Input A
Input B
Input C
Print "DX+EY=F"
Input D
Input E
Input F
If A*E-D*B=0 Goto 1
X=(C*E-B*F)/(A*E-D*B)
Y=(A*F-C*D)/(A*E-D*B)
Print X
Print Y
End
Label 1
Print "no unique solution"
End

```

Sum Program

To use this program, first replace (nth term) with the n th term of the sequence in terms of m . For example, $s=s+2^m$, where 2^n is the n th term of the sequence.

```

sum
-----REAL
Goto top
Label sumit
s=s+(nth term)
Print s
m=m+1
Goto next
Label top
Input m
Input n
s=0
Label next
If m<=n Goto sumit
End

```