

## HP-38G

### 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 PROGRAM
INPUT P; "SIMPINT"; "ENTER
PRINCIPAL";1:
INPUT R; "SIMPINT"; "INTEREST RATE IN DECIMAL
FORM";1:
INPUT T; "SIMPINT"; "ENTER NUMBER OF YEARS";1:
P*R*T►I:
DISP 3; "INTEREST IS" I:
FREEZE:
```

### Quadratic Formula Program

This program will display the solutions of a quadratic equation or the words "No Real Solution." To use the program, write the quadratic equation in general form and enter the values of  $a$ ,  $b$ , and  $c$ . This program displays the answer in complex form  $(x, y)$ , where  $x$  is the real part and  $y$  is the imaginary part.

```
QUADRAT PROGRAM
INPUT A; "AX2+BX+C=0";
"ENTER A"; " ";1:
INPUT B; "AX2+BX+C=0";
"ENTER B"; " ";1:
INPUT C; "AX2+BX+C=0";
"ENTER C"; " ";1:
B2-4AC►D:
(-B+√D)/(2A)►Z1:
(-B+√D)/(2A)►Z2:
DISP 3;Z1:
DISP 5;Z2:
FREEZE
```

### 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.

```
TWOPTFM PROGRAM
INPUT X: "ENTER X1, Y1";
"ENTER X1";1:
INPUT Y: "ENTER X1, Y1";
"ENTER Y1";1:
INPUT C: "ENTER X2, Y2";
"ENTER X2";1:
INPUT D: "ENTER X2, Y2";
"ENTER Y2";1:
(D-Y)/(C-X)►M
M*-X+Y►B
DISP 1; "SLOPE ="M:
DISP 3; "Y-INT ="B:
FREEZE:
```

## 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.

1. Input the 2 programs SOLVE and SOLVE.SOLN.
2. Run the SOLVE program.

```
SOLVE
SOLVE PROGRAM
INPUT A;"AX+BY=C";
  "ENTER A";" ";1:
INPUT B;"AX+BY=C";
  "ENTER B";" ";1:
INPUT C;"AX+BY=C";
  "ENTER C";" ";1:
INPUT D;"DX+EY=F";
  "ENTER D";" ";1:
INPUT E;"DX+EY=F";
  "ENTER E";" ";1:
INPUT F;"DX+EY=F";
  "ENTER F";" ";1:
ERASE:
IF AE-DB==0
THEN DISP 3; "NO UNIQUE
  SOLUTION":
ELSE RUN "SOLVE.SOLN":
END:
FREEZE:
SOLVE.SOLN PROGRAM
(CE-BF)/(AE-DB)►X:
(AF-CD)/(AE-DB)►Y:
DISP 3;"X="X:
DISP 5;"Y="Y:
```