

## HP-38G

### 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:

### Adding Vectors Graphically Program

This program will sketch two vectors in standard position. Using the parallelogram law for the vector addition, the program also sketches the vector sum. Be sure to set an appropriate viewing rectangle. The Function applet should have a plot range of  $-10 \leq x \leq 10$  and  $-10 \leq y \leq 10$ .

ADDVECT PROGRAM

INPUT A;"ENTER A";:1:

INPUT B;"ENTER B";:1:

INPUT C;"ENTER C";:1:

INPUT D;"ENTER D";:1:

ERASE:

LINE -10;0;10;0:

LINE 0;-10;0;10:

LINE 0;0;A;B:

LINE 0;0;C;D:

FREEZE:

A+C►E

B+D►F

LINE 0;0;E;F:

LINE A;B;E;F:

LINE C;D;E;F:

FREEZE

### Visualizing Row Operations Program not available