TI86 or TI85 Distance and midpoint program **DIST2**

:Disp "ENTER FIRST X"
:Input A
:Disp "ENTER FIRST Y"
:Input B
:Disp "ENTER SECOND X"
:Input C
:Disp "ENTER SECOND Y"
:Input D
:ClLCD
:$\sqrt{((A-C)^2 + (B-D)^2)}$ →F
:Disp "DISTANCE="
:Disp F
:(A+C)/2→I
:(B+D)/2→J
:Disp "MIDPOINT=(X,Y)="
:Disp I,J

Disp, **Input**, **ClLCD,** and the **quote marks** are found under the **I/O** menu within the
PRGM menu. The arrow is the **STO→** button. The **equal sign** is the **ALPHA** function
of the **STO→** button. The **space key** is the **Alpha** function of the negative (-) key in the
number pad area. It looks like a little rectangle with no top.

To use the program:
Suppose we have two points (3, 15) and (-9, 10). We want to know the distance between
the two points and the midpoint of the segment connecting them.

Press the **PRGM** button. Select **NAMES** and then select **DIST2** from that list. Press
ENTER. This should put **DIST2** on the home screen. Press **ENTER** to run the program.
Follow the prompts. It does not matter which point you put in first. You essentially enter
the first point's coordinates, *x* then *y*, and then the second point's coordinates, *x* then *y*. It
will calculate the distance between the two points and their midpoint.

It will print out the following.
DISTANCE=
                            13
MIDPOINT=(X,Y)=
                            -3
                        12.5
                      Done

We read this as the distance between (3, 15) and (-9, 10) is 13 units and the midpoint of
the segment connecting these two points is (-3, 12.5).