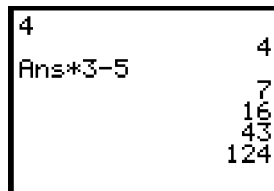
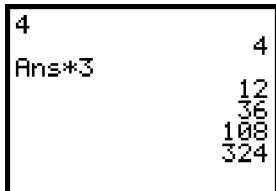
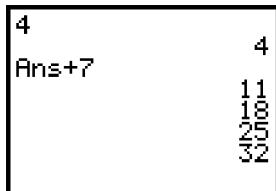


Combining these two features allows you to perform on-screen recursion, calculating a new number by repeating the operation using the result of the previous calculation. You can create patterns of numbers (sequences) using the following procedure:

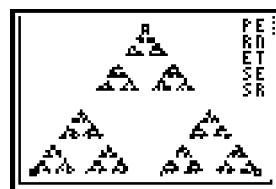
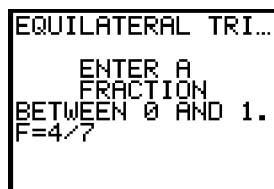
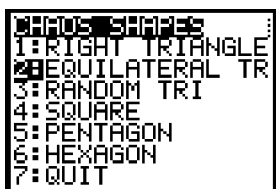
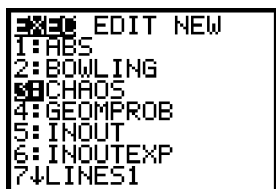
- Enter the starting number of your sequence and press **ENTER**.
- Enter an expression using Ans. You can get Ans by pressing any of the operation keys, such as **+**, **-**, **×**, **÷**, **^**, **x<sup>2</sup>**, or by pressing **2nd** [ANS].
- Press **ENTER** **ENTER** **ENTER** and so on. Each time you press **ENTER**, you will get one more term in the sequence.



**Note 0E • The Chaos Game**

Follow the steps below:

- Link or manually enter the program into your calculator. (See **Note 0F** and **Note 0G**.)
- Press **PRGM** and make sure the word EXEC is highlighted. Find the program labeled CHAOS. Press its number or use the down arrow to select the program and press **ENTER**. To execute the program press **ENTER** again.
- You are asked to choose a Chaos shape. Press the appropriate number or arrow down and press **ENTER** to select the shape.
- You are then asked to enter a fraction between 0 and 1. You can enter this value either as a fraction or a decimal number. Press **ENTER**.
- The calculator will plot 1000 points by following the Chaos rules to plot a fractal. When the program is done, press **ENTER**.
- Follow the directions to replay or to quit.



(continued)

```

PROGRAM:CHAOS
ClrHome
Menu("CHAOS SHAPES","RIGHT
  TRIANGLE",1,"EQUILATERAL
  TR",2,"RANDOM TRI",3,
  "SQUARE",4,"PENTAGON",5,"HEXAGON",
  6,"QUIT",8)
Lb1 1
Disp " RIGHT TRIANGLE"
{.05,.95,.05}→L1
{.05,.05,.65}→L2
Goto 7
Lb1 2
Disp "EQUILATERAL TRIANGLE"
{.05,.95,.5}→L1
{.05,.05,.65}→L2
Goto 7
Lb1 3
Disp "RANDOM TRIANGLE"
{rand ,rand ,rand }→L1
.7{rand ,rand ,rand }→L2
Goto 7
Lb1 4
Disp " SQUARE"
{.2,.8,.8,.2}→L1
{.05,.05,.65,.65}→L2
Goto 7
Lb1 5
Disp " PENTAGON"
.5+.35sin(({0,1,2,3,4}72°)→L1
.35+.35cos(({0,1,2,3,4}72°)→L2
Goto 7
Lb1 6
Disp " HEXAGON"
.5+.35sin(({0,1,2,3,4,5}60°)→L1
.35+.35cos(({0,1,2,3,4,5}60°)→L2
Lb1 7
ClrDraw:FnOff
PlotsOff
0→Xmin:1→Xmax
0→Ymin:.7→Ymax
Plot1(Scatter,L1,L2,□)
L2(1)→H:L2(1)→Y
dim((L1)→N
Disp " ", " ENTER A"
Disp " FRACTION"
Disp " BETWEEN 0 AND 1."
Input "F=",F
For(J,1,1000)
(int(Nrand+1)→P
H+(L1(P)-H)F→H
Y+(L2(P)-Y)F→Y
Pt-On(H,Y)
End
Text(0,84,"P E")
Text(6,84,"R N")
Text(12,84,"E T")
Text(18,84,"S E")
Text(24,84,"S R")
Pause
Lb1 8
PlotsOff
Disp " PRESS ENTER",
" TO REPLAY"," ","
PRESS"," 1 AND ENTER",
" TO QUIT"

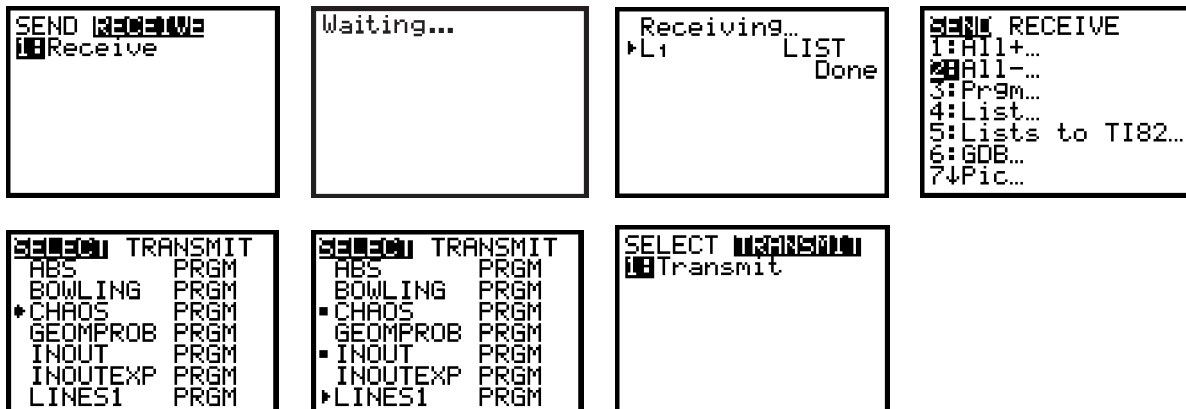
```

### Note 0F • Linking Programs or Lists

- Connect two calculators by using a link cable. Be sure that the connection is tight on each unit.
- Turn on both calculators and on each one press  $\boxed{2nd}$  [LINK].
- On the **receiving calculator**, arrow to the right to RECEIVE and press  $\boxed{ENTER}$  so that the calculator displays Waiting....
- On the **sending calculator**, select 2:All-.... To link a program, arrow down to the name of the program you want to send. To link data, arrow down to the list you want to send.
- Press  $\boxed{ENTER}$  to select a program or list. (You can select more than one program and/or list and send them simultaneously. Just continue to arrow down and press  $\boxed{ENTER}$  at each program or list you want to transfer.) Then arrow right to TRANSMIT and press  $\boxed{ENTER}$ .

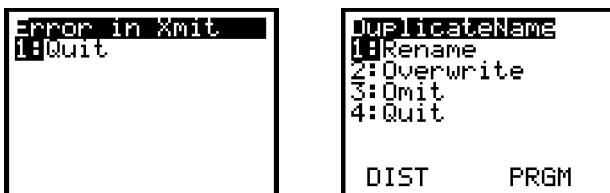
(continued)

- f. When the transfer is complete the name of the program or list transferred will show on the screens of both the sending and receiving calculators.



**Errors**

If you get Error in Xmit, check that the link cable is pushed all the way in each calculator and try again. Remember that after you arrow to the program or list you want to send, you must press **ENTER** to select it before you arrow to TRANSMIT. The receiving calculator must be Waiting before the sending calculator transmits. If the receiving calculator already has a program or list by the same name as the one you are sending, the receiving calculator will show a DuplicateName menu. Select 1:Rename or 2:Overwrite from this menu. If you choose to rename, you must enter a new program name. (See Note 0G, step b.)



**Note 0G • Entering a Program**

Your calculator is like a small computer. You can instruct (or program) it to do calculations or to communicate with other devices. What follows are not instructions on how to write a program—they are instructions on how to enter into your calculator a program that has already been written. You must be very careful to enter the commands exactly as they are written. Changing the program in any way will alter how it runs or may cause an error.

There are three ways to enter a program into your calculator. Two easy ways are to download the program from either a computer or another calculator. To use a computer, download the program from a CD-ROM directly into your calculator by using TI-GRAPH LINK™ software. You will need the proper cable to link your computer to your calculator. To use another calculator that has the program in its memory, link the two calculators with a link cable and transfer

(continued)

the program. (See Note 0F.) The third way is to enter a program manually by following the steps below:

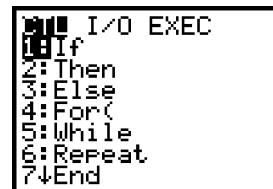
- a. Press **PRGM** and arrow to NEW.



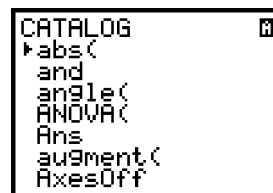
- b. Press **ENTER** and enter the name of the program. You are already in Alpha-Lock so do not press **ALPHA** unless you want to enter a number into the program's name.



- c. Enter the program exactly as you see it. Lowercase letters in the commands of the program indicate that you must find this command on the calculator. You can find many programming commands by pressing **PRGM** and looking under CTL and I/O. To find other commands, functions, and symbols, either look in the menu of the appropriate calculator key, or press **2nd** [CATALOG] and enter the letter that begins the command you want. (You are still in alpha mode so don't press **ALPHA**.) Then arrow to the command and press **ENTER**.



If you enter a command from the calculator keypad using **ALPHA** characters, the letters will all be uppercase. The command won't look the same as how it's been written and it won't work.



- d. Use **2nd** [INS] **ENTER** to insert a new line between two lines. Use **DEL** on a blank line to delete that line.
- e. Press **2nd** [QUIT] when you finish entering the program.

### Errors

You can edit the program if there is an error or if you need to make a change.

- a. Press **PRGM** and arrow to EDIT. Arrow down to the program and press **ENTER**.
- b. Scroll down through the program to find the error. Studying the entire program on paper is often easier than working from the calculator screen where you can only see a small portion at one time. Use **2nd** [INS] or **DEL** as needed to make changes.
- c. If, when you execute a program, you get an error message that has a Goto option, choose this option. The calculator will automatically switch to EDIT mode and scroll to the line with the error. Then proceed as in **step b**.

