# TARGET for the TI-73/83/84

Target is a two-person game. A Start Number (N_1) is selected randomly. Also a Target Range ($T+- R$) is randomly determined. The object of the game is to estimate a factor by which to multiply N so that the product falls within the target range. If the factor the first player selects does not result in a product that falls in the given range, the **calculated product** becomes the new Start Number (N_2). The Target Range remains the same. It is now the second player's turn to estimate a factor by which to multiply the new Start Number (N_2). The game continues with players taking turns until the product falls within the given range.

The TI-73 or 83 can be used to help select N, T and R using the randInt() function which is accessed by pressing: [MATH]►►[PRB] 2:randInt([ENTER]
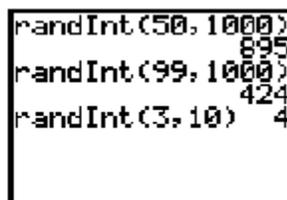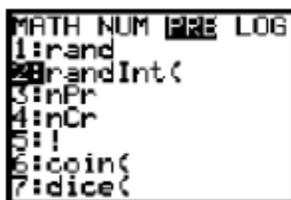
randInt(50,1000)=N   _____

randInt(99,1000)=T   _____

randInt(3,10)=R   _____   Target Range: (T-R) – (T+R): _____ - _____

Seeding the Random Number Generator

The variable **rand** (found in the PRB menu of the [MATH] key) may need to be seeded so that every calculator is not generating the same random number sequence. To do this, have each student enter their own "favorite" six digit number and store it into **rand**, which is item #1 on the same menu as randInt(.

Program

A programmed version of Target exists which automates selecting the target range and the beginning number. The directions to operate the program appear on the screen. Any number may be entered when asked, "What problem do you want?" This feature allows for a classroom competition where all students are attempting the same problems. On the TI-73/83/84, only the number keys and the negative and decimal keys are operable when entering a response. The operation keys and arrow keys are locked. If an input error is made, press [CLEAR].

At the end of the game the students may elect to review all the rounds by viewing the problems and responses stored in the calculator lists. Following the instructions on the screen to access the following lists:

|	
TURN (L_1):	Round
LBND (L_2):	Lower boundary of Target Range
UBND (L_3):	Upper boundary of Target Range
NUMBR (L_4):	Start Number
FACTR (L_5):	Estimated Factor
PROD (L_6):	Product of Start Number and Estimated Factor which becomes the Start Number in the next round

IMPORTANT NOTE
On the TI-73 and TI-83 the program DEFAULT should be executed when done using the TARGET program to restore default lists L_1 through L_6.

If you do not have this program, do the following:

TI-73: press 2nd [CATALOG], scroll to select the SetUpEditor command, ENTER ENTER.

TI-83: press STAT #5: SetUpEditor ENTER.

If done correctly the home screen will appear as follows:
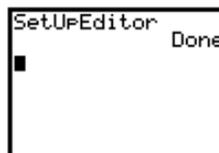
TARGET GAMESHEET

PLAYER #1 _____ PLAYER #2 _____

TARGET RANGE: _____ - _____

ROUND   NUMBER   FACTOR   PRODUCT

1

2

3

4

5

6

7

8

9

10

11

12

What was difficult about estimating a good factor?

What strategies seemed to be helpful? Describe the conditions when each strategy worked best.