

## TI-81, TI-82, TI-83 PROGRAM FOR PARTIAL SUM OF P SERIES

KEY IN	DISPLAY	EXPLANATION
PRGM $\rightarrow$ ENTER PSUM	Prgm 2: PSUM	Program named "PSUM"
<i>Disp</i> 2nd $\alpha$ "VALUE OF P"	Disp "VALUE OF P"	
<i>Input</i> $\square$ $\alpha$ P	Input P	After ?, type in the desired P.
<i>Disp</i> 2nd $\alpha$ "INITIAL INDEX"	Disp "INITIAL INDEX"	
<i>Input</i> $\alpha$ M	Input M	After ?, type in the desired initial index M.
<i>Disp</i> 2nd $\alpha$ "LARGEST INDEX"	Disp "LARGEST INDEX"	
<i>Input</i> $\alpha$ J	Input J	After ?, type in the maximal desired index J
0 STO S	0 $\rightarrow$ S	0 is stored in location S (S = partial sum of series)
M STO N	M $\rightarrow$ N	N will be the variable index; its smallest value is M.
<i>Lbl</i> 1	<i>Lbl</i> 1	Loop starts, with N is increasing by 1 until N = J
S + 1/N <sup>P</sup> STO S	S + 1/(N <sup>P</sup> ) $\rightarrow$ S	The sum S is increased by 1/N <sup>P</sup>
N + 1 STO N	N + 1 $\rightarrow$ N	The index is increased by 1
If N $\leq$ J	If N $\leq$ J	
<i>Goto</i> 1	<i>Goto</i> 1	If N $\leq$ J, go to label 1; otherwise go to next step.
<i>Disp</i> 2nd $\alpha$ "PARTIAL SUM"	Disp "PARTIAL SUM"	
<i>Disp</i> $\alpha$ S	Disp S	Displays the desired partial sum $\square \sum_{n=m}^j 1/N^P$

To execute the program, key in PRGM the number corresponding to PSUM ENTER and then respond to the ?'s that appear.

NOTE: The TI-82 and TI-83 programs are identical.

On the TI-82 and TI-83, with appropriate identification of italicized words, the same program works, with one exception:

After STO type in  $\alpha$   
 For example, 0 STO S becomes 0 STO  $\alpha$ S

Note:  $\rightarrow$  represents the right arrow button.

TI-81 identification of italicized words in the program: *Disp* (PRGM  $\rightarrow$ 1) *Goto* (PRGM 2) *If* (PRGM 3)  
*Input* (PRGM  $\rightarrow$ 2) *Lbl* (PRGM 1)  $\leq$  (2nd MATH 6) "space" is obtained by  $\alpha$ 0

TI-82 and TI-83 identification of italicized words in the program: *Disp* (PRGM  $\rightarrow$ 3) *Goto* (PRGM 0) *If*  
 (PRGM 1) *Input* (PRGM  $\rightarrow$ 1) *Lbl* (PRGM 9)  $\leq$  (2nd MATH 6) "space" is obtained by  $\alpha$ 0